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RECRUITMENT AND RETENTION OF MINORITY MEDICAL STUDENTS IN SREB STATES

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RECRUITMENT AND RETENTION OF MINORITY MEDICAL STUDENTS IN SREB STATES

Executive Summary

Underrepresentation of minorities in the health professions remains a serious problem in the SREB region and in the United States as a whole. Blacks, Hispanics, and native Americans make up more than 25 percent of the region's population, but accounted for only 11.4 percent of its medical students in 1990-91. Only native Americans are represented in medical schools at a level comparable to their proportion in the population.

PERCENTAGE OF MINORITIES AMONG MEDICAL STUDENTS IN SREB STATES, 1990-91

	Black	Hispanic	Native American
Percentage of Medical School Enrollment	6.8%	4.1%	0.5%
Percentage of Population (estimated)	18.2%	6.6%	0.5%

Nationally, minority applicants are less likely than non-minority applicants to be offered admission to medical schools (49 percent vs. 65 percent for M.D.-granting schools in 1989-90). Some schools are far more successful than others in enrolling minority students, however. The purpose of this study is to identify factors differentiating schools that enroll and graduate relatively large numbers of minority students from those with very few.

Differences in enrollments of minority students between medical schools and among states cannot all be explained by demographic differences, especially in the case of black students. The schools that lead the region in the enrollment of Hispanic and native American students are all located in the SREB states with the largest populations of those groups. There is no such clear correlation between black population and black students enrolled in medical school, however.

Medical schools with high enrollments of minority students, including the first seven listed in the following table, tend to be more aggressive in minority recruiting than other schools, and they have significantly more applicants in every minority category. There are also significant differences in the way these schools approach the admissions process. With the exception of the two predominantly black schools, high-minority schools interview higher percentages of applicants in all racial and ethnic categories than low-minority schools. Moreover, they judge the qualifications of applicants much more broadly. Low-minority schools tend to emphasize Medical College Admission Test (MCAT) scores, using arbitrary minimum scores to exclude many minority applicants from consideration. The high-minority schools, on the other hand, emphasize subjective factors like character and background to identify applicants with potential to become quality physicians. They use test scores not as barriers to entry, but as a basis for comparing minority applicants among themselves and as indicators of areas in which students may require special help.

Most schools with high enrollments of minority students, especially those that are public, believe part of their mission is to produce physicians to serve all segments of society. To accomplish this, they accept some students knowing in advance that they may have difficulty with the medical school curriculum. Not surprisingly, they are far better prepared than low-minority schools to provide effective academic and personal support to students. They attempt to identify problems as early as possible and they focus special

attention on improving deficient study and test-taking skills. They are also more flexible in allowing students to take longer than the traditional four years to complete the curriculum. As a result, the high-minority schools provide a more diverse and nurturing environment for all students.

PERCENTAGES OF BLACK STUDENTS ENROLLED IN SELECTED MEDICAL SCHOOLS IN SREB STATES

MEDICAL SCHOOL	TOTAL BLACK STUDENTS ENROLLED 1990-91	BLACKS AS A PERCENT OF TOTAL ENROLLMENT 1990-91	BLACKS AS A PERCENT OF STATE* POPULATION
Predominantly Black Schools			
Morehouse School of Medicine* (GA)	120	81.6	27.0 (12.1)
Meharry Medical College* (TN)	225	77.3	16.2 (12.1)
Other Schools with High Percentages of Black Students			
East Tennessee State University	29	12.4	16.2
East Carolina University (NC)	35	12.1	22.5
University of North Carolina	75	11.7	22.5
Johns Hopkins University* (MD)	46	9.8	24.2 (12.1)
University of Maryland	58	9.7	24.2
Schools with Low Percentages of Black Students in States with Large Black Populations			
Medical University of South Carolina	21	3.8	30.5
Louisiana State University-Shreveport	14	3.7	30.0
University of Alabama	24	3.6	26.2
University of South Carolina	9	3.5	30.5

* For independent schools, United States population is shown in parentheses.

All medical schools with high percentages of minority students identify financial difficulties as the single most important factor limiting both numbers of minority applicants and enrollments of minority students. Some schools are able to earmark funds specifically to support minority students, and several states also operate special programs of this type. The resources currently available, however, fall far short of meeting the need.

Although they represent about 20 percent of the nation's population, blacks, Hispanics, and native Americans account for only about 7 percent of all physicians and 12 percent of all medical school applicants. If enrollments, and, ultimately, the supply of physicians, are ever to be brought fully into line with the distribution of the population, the pool of minority applicants will have to increase. That will require improvements in high school completion and college graduation rates for minority students.

Medical schools can have only a limited and largely local impact on numbers of minority applicants. Too often, however, deficiencies in the minority applicant pool provide a rationale for failure to respond effectively to those who do apply. The schools that have been most successful in enrolling minority students and graduating minority physicians all share a commitment to finding the best candidates from every group in society and turning them into qualified professionals to serve all of society. The schools profiled in this study provide a variety of successful models for accomplishing this.

RECRUITMENT AND RETENTION OF MINORITY MEDICAL STUDENTS IN SREB STATES

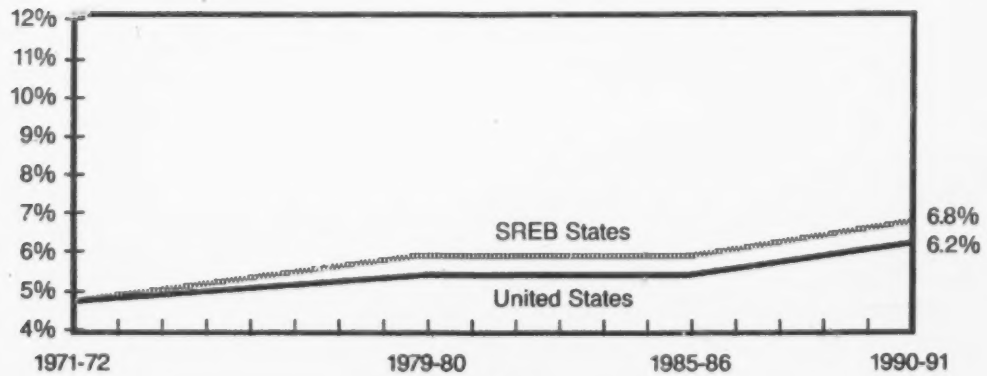
The historic and continuing underrepresentation of minorities in the health professions remains one of the most serious public health problems facing the nation today. In no field is the problem more critical than in medicine. Blacks, Hispanics, and native Americans make up approximately 20 percent of the nation's population, yet they account for barely 7 percent of all physicians. It is likely that the 1990 Census will find that minorities have increased their share of the population, but the percentage of minority physicians has changed little in over a decade.[1]

Limited numbers of minority physicians mean limited access for minorities to health care that is sensitive to their particular physical, emotional, and cultural needs. As an educational issue, the underrepresentation of minorities in medicine--traditionally a prestigious and economically rewarding field--reflects serious deficiencies in terms of equal career opportunities.[2 3 4]

The numbers of minority students enrolled in medical schools both in the United States and in the Southern Regional Education Board region have more than doubled in the past two decades, but this increase has been largely a byproduct of an overall increase in medical school enrollments (one-third of the region's 45 medical schools have been established since 1965). Between 1971 and 1990, for example, the number of black students enrolled in medical schools in SREB states increased from 576 to 1,400. At the same time, however, total enrollment in the region grew from 12,279 to 20,740. As a result, the percentage of blacks among medical students in the region increased only from 4.7 to 6.8 percent (Figure A). *

FIGURE A

Blacks as a Percentage of Medical School Enrollments, SREB States and the United States, 1971-1990



SOURCES: Association of American Medical Colleges; American Association of Colleges of Osteopathic Medicine; SREB Survey of Medical School Enrollment, 1990-91.

* Historical data on enrollments of black and native American students are presented in Appendix A. Comparable historical data for all Hispanics are not available.

Although this gain was slightly greater than that for all medical schools in the United States, it must be viewed in the context of the South's larger black population, 18 percent, compared to 12 percent for the nation as a whole. Clearly, the progress of 20 years has not been enough to provide equal opportunity, either in the region or in the nation.

There is only one way to become a physician--graduation from an accredited medical school. But to graduate, members of minority groups first must gain admission and then survive one of the most difficult of all professional curricula.

BACKGROUND

In early 1990, the Southern Regional Education Board's Health and Human Services Advisory Commission recommended that SREB should give high priority to addressing the problem of the underrepresentation of minority students in all areas of health professions education. The field of medicine was selected as the starting point for this effort because of its high level of visibility and its historical position as the health care field dominant in decision-making about patient care.

Significant differences exist between individual medical schools in the percentage of enrollment made up of minority students. These differences cannot be explained adequately by population factors. To gain a better understanding of these differences, SREB gathered detailed information about recruitment and retention of minority students at medical schools in the SREB region. The goal was to identify factors that have helped some schools become more effective than others in providing opportunities to minority students and producing minority physicians.

Characteristics of Medical Education

Forty-five of the 141 medical schools in the United States are in the 15 SREB states. These include 41 allopathic medical schools, which award the M.D. degree, and four osteopathic schools, which award the D.O. degree. Of the 45 schools, 32 (29 M.D., 3 D.O.) are publicly controlled, while 13 (12 M.D., 1 D.O.) are independent. (A fourteenth independent, M.D.-granting school, Oral Roberts University School of Medicine, in Tulsa, Oklahoma, closed in 1990.)

Two of the nation's three predominantly black medical schools--*Meharry Medical College*, in Nashville, and *Morehouse School of Medicine*, in Atlanta--are among the region's 13 independent schools. Meharry, established in 1876, and Howard University College of Medicine in Washington, D.C., have produced a majority of the black physicians currently practicing in the United States. Morehouse is a new school, which enrolled its first students in a full four-year medical program in 1981.

Each medical school in the United States is individual, with a unique institutional personality and original ways of dealing with challenges. There are, however, certain common factors shared by all or most schools.

Whether accredited by the Liaison Committee on Medical Education (M.D.) or the American Osteopathic Association (D.O.), all medical schools must meet very similar stringent accreditation requirements. All of the medical schools in the region are fully accredited by the appropriate body.

All medical schools in the SREB region except one require applicants to submit scores on the Medical College Admission Test (MCAT). This is a six-part test, with sections in biology, chemistry, physics, problem solving, reading, and quantitative skills. The maximum score on each section is 15; average scores range between 8.5 and 10. Some schools aggregate the scores, but most evaluate each section individually. In 1991, a revised MCAT will be instituted that will place greater emphasis in all areas on general problem-solving ability.

All of the M.D. schools visited for this study currently participate in the American Medical College Application Service (AMCAS), a non-profit application processing service of the Association of American Medical Colleges. Any student applying to one or more participating schools must apply through AMCAS. Once initial applications are forwarded to the schools, further communication is directly between the school and the applicant. Most schools require additional materials from applicants, and this often is referred to as the "second stage" application. Both of the D.O. schools visited participate in the American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS), which operates in a similar fashion.

Through its Section for Minority Affairs, the AAMC offers an optional Medical Minority Applicant Registry (Med-MAR), which circulates biographical information on minority applicants to the admissions offices of all member schools. The Minority Affairs Section has undertaken a number of efforts to assist schools in minority recruiting. The most notable of these is the Simulated Minority Admission Exercises, which uses role-playing to enhance admissions committee members' sensitivity to minority applicants. Many of the schools in the region with the highest percentages of minority students have taken advantage of this program.

Since 1972, the federal government has provided funding to selected undergraduate and professional schools for programs to increase the participation of minority students in the health professions. Funding for this effort, currently known as the Health Careers Opportunity Program (HCOP), has fluctuated, and funding priorities have changed over time. A number of medical schools in SREB states currently have HCOP grants. Funding has been terminated at several other medical schools for reasons that may have little to do with program performance.

With few exceptions, the structure of the medical curriculum today varies little. The curriculum usually takes four years, the first two devoted to basic biomedical sciences, the last two focusing on clinical instruction. There has been considerable debate in recent years about the need to revamp the medical school curriculum. The alternative model receiving the most attention is commonly referred to as "problem-based learning." Curriculum changes based on this model are being implemented at a few U.S. schools, but, to date, no school in the SREB region has made wholesale changes in its curriculum.

Beginning in 1991, to be licensed to practice medicine in any of the United States, an M.D. graduate of a U.S. medical school will have to pass the two-part National Board of Medical Examiners (NBME) examination. Part I of the NBME exam, which focuses on basic science knowledge, is usually taken first following completion of the second year of medical school. Many schools use scores on Part I as a measure of student performance, and some require passage for advancement or graduation. A few schools also require passage of Part II, the clinical portion of the NBME exam, prior to graduation.[5]

Until 1991, a second pathway to medical licensure was available to M.D. graduates of U.S. schools. This was the Federation of State Medical Boards Licensure Exam (FLEX). Many graduates who have had difficulty passing the NBME exam (especially Part I) in the past have achieved licensure by passing the FLEX exam. In future, this option will not be available.

Licensure requirements for D.O.s are less uniform than for M.D.s. Most, but not all, states accept passage of the National Board of Osteopathic Medical Examiners (NBOME) exam. Most will also accept the FLEX exam, and a few accept only the FLEX. A few other states, primarily those with independent osteopathic licensing boards, offer their own licensure exams. Osteopathic medicine has not yet decided whether to pursue a single pathway to licensure comparable to that implemented for M.D.s in 1991.

Most medical schools have chapters of the American Medical Students' Association (AMSA) or Student Osteopathic Medical Association (SOMA). Most with high minority enrollments also have Student National Medical Association (SNMA) chapters or other minority student organizations. SNMA is primarily oriented to black students, though chapters at many schools represent students from all minority groups. Neither AMSA nor SNMA membership is restricted on the basis of race.

MINORITY ENROLLMENTS, 1990-91

All 45 medical schools in the region provided data on total and new first-year enrollments of black, Hispanic, and native American students for 1990-91 (Table 1). Appendix A includes rankings of all public and independent schools in the region in each minority category as well as new first-year-enrollments of minority students at each school.

Black Enrollments

Among the 32 public medical schools in the region, three schools lead the way in enrollment of black students. *East Tennessee State University*, *East Carolina University*, and the *University of North Carolina at Chapel Hill* each had approximately 12 percent black students in 1990-91, substantially higher than the 6.8 percent of all medical students (M.D. and D.O.) in the region who were black. In addition, each of these

TABLE 1

Black, Hispanic, and Native American Students in Medical Schools (all levels) in SREB States, 1990-91

STATE	MEDICAL SCHOOL	CITY	PUBLIC OR INDEPENDENT	TOTAL ENROLLMENT	BLACK ENROLLMENT		HISPANIC* ENROLLMENT		NATIVE AMERICAN ENROLLMENT	
					NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
All Medical Schools in SREB States				20,740	1,400	6.8	851	4.1	97	0.5
All United States Medical Schools				71,955	4,458	6.2	3,816	5.3	292	0.4
ALABAMA										
	U of Alabama School of Med	Birmingham	P	672	24	3.6	7	1.0	5	0.7
	U of South Alabama Col of Med	Mobile	P	250	20	8.0	2	0.8	2	0.8
ARKANSAS										
	U of Arkansas College of Med	Little Rock	P	538	39	7.2	4	0.7	0	0.0
FLORIDA										
	Southeastern Col of Ostpathc Med	N Miami Beach	I	426	23	5.4	48	11.3	1	0.2
	U of Florida College of Med	Gainesville	P	456	28	6.1	27	5.9	0	0.0
	U of Miami School of Med	Miami	I	553	39	7.1	87	15.7	0	0.0
	U of South Florida Col of Med	Tampa	P	377	15	4.0	38	10.1	1	0.3
GEORGIA										
	Emory U School of Med	Atlanta	I	447	28	6.3	7	1.6	0	0.0
	Medical College of Georgia	Augusta	P	724	47	6.5	14	1.9	0	0.0
	Mercer U School of Med	Macon	I	164	12	7.3	4	2.4	0	0.0
	Morehouse School of Med	Atlanta	I	147	120	81.6	6	4.1	0	0.0
KENTUCKY										
	U of Kentucky College of Med	Lexington	P	354	7	2.0	1	0.3	1	0.3
	U of Louisville School of Med	Louisville	P	488	18	3.7	3	0.6	2	0.4
LOUISIANA										
	Louisiana State U School of Med	New Orleans	P	691	41	5.9	31	4.5	2	0.3
	Louisiana State U School of Med	Shreveport	P	383	14	3.7	8	2.1	0	0.0
	Tulane U School of Med	New Orleans	I	592	13	2.2	30	5.1	0	0.0
MARYLAND										
	Johns Hopkins U School of Med	Baltimore	I	469	46	9.8	14	3.0	0	0.0
	U of Maryland School of Med	Baltimore	P	595	58	9.7	3	0.5	0	0.0
MISSISSIPPI										
	U of Mississippi School of Med	Jackson	P	389	30	7.7	1	0.3	0	0.0

* - Hispanics may include individuals of all nationalities and races.

three schools had even higher percentages of blacks among new first-year students. The *University of Maryland at Baltimore*, ranking fourth, is also a relatively strong performer with blacks accounting for 9.7 percent of all students and 12.1 percent of new first-year students. The *University of Tennessee, Memphis*, and the *University of South Alabama*, ranking fifth and sixth in enrollment of black students, respectively, have made significant progress in this area in recent years.

On the negative side, in 19 of the 32 public medical schools in the region (12 of them in states with black populations exceeding 10 percent) enrollments of black students were less than 5 percent in 1990-91. The *University of Alabama*, *Louisiana State University at Shreveport*, the *Medical University of South Carolina*, and the *University of South Carolina* stand out in particular. Less than four percent of students at each of these schools were black in 1990-91, even though all are located in states where blacks are more than 25 percent of the population.

Morehouse School of Medicine and *Meharry Medical College* predictably lead all medical schools in the region in the percentage of students who are black, with both over 75 percent in 1990-91. *Johns Hopkins*, with 9.8 percent black students, was well ahead of the other 10 private medical schools in 1990-91, though the 7.8 percent of new first-year students who were black suggests it may have difficulty maintaining this lead.

STATE / MEDICAL SCHOOL	CITY	PUBLIC OR INDEPENDENT	TOTAL ENROLLMENT	BLACK ENROLLMENT		HISPANIC* ENROLLMENT		NATIVE AMERICAN ENROLLMENT	
				NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
NORTH CAROLINA									
Bowman Gray School of Med	Winston-Salem	I	437	27	6.2	5	1.1	0	0.0
Duke U School of Med	Durham	I	459	36	7.8	2	0.4	2	0.4
East Carolina U School of Med	Greenville	P	289	35	12.1	7	2.4	7	2.4
U of N Carolina School of Med	Chapel Hill	P	643	75	11.7	6	0.9	5	0.8
OKLAHOMA									
Okl State U Col of Osteopthc Med	Tulsa	P	273	13	4.8	9	3.3	16	5.9
U of Oklahoma College of Med	Oklahoma City	P	539	25	4.6	7	1.3	27	5.0
SOUTH CAROLINA									
Medical U of S Carolina	Charleston	P	548	21	3.8	0	0.0	0	0.0
U of S Carolina School of Med	Columbia	P	256	9	3.5	0	0.0	0	0.0
TENNESSEE									
East Tenn State U Col of Med	Johnson City	P	234	29	12.4	1	0.4	0	0.0
Meharry Medical College	Nashville	I	291	225	77.3	5	1.7	0	0.0
U of Tennessee College of Med	Memphis	P	591	52	8.8	6	1.0	0	0.0
Vanderbilt U School of Med	Nashville	I	379	8	2.1	1	0.3	2	0.5
TEXAS									
Baylor College of Med	Houston	I	651	15	2.3	45	6.9	0	0.0
Texas A&M U College of Med	College Station	P	193	6	3.1	20	10.4	0	0.0
Texas Col of Osteopathic Med	Fort Worth	P	372	4	1.1	29	7.8	1	0.3
Texas Tech U School of Med	Lubbock	P	389	2	0.5	29	7.5	4	1.0
U of Texas Med School	Houston	P	768	22	2.9	68	8.9	2	0.3
U of Texas Med School	San Antonio	P	818	19	2.3	108	13.2	4	0.5
U of Texas Medical Branch	Galveston	P	768	36	4.7	67	8.7	8	1.0
U of Texas Southwestern Med Sch	Dallas	P	791	30	3.8	68	8.6	2	0.3
VIRGINIA									
Eastern Virginia Med School	Norfolk	I	368	14	3.8	8	2.2	0	0.0
Medical College of Virginia	Richmond	P	658	33	5.0	10	1.5	1	0.2
U of Virginia School of Med	Charlottesville	P	558	35	6.3	7	1.3	0	0.0
WEST VIRGINIA									
Marshall U School of Med	Huntington	P	192	0	0.0	1	0.5	1	0.5
W Virginia Sch of Osteopthc Med	Lewisburg	P	240	4	1.7	5	2.1	1	0.4
West Virginia U School of Med	Morgantown	P	320	3	0.9	2	0.6	0	0.0

SOURCES: American Association of Colleges of Osteopathic Medicine; Association of American Medical Colleges; SREB Survey of Medical School Enrollments, 1990-91

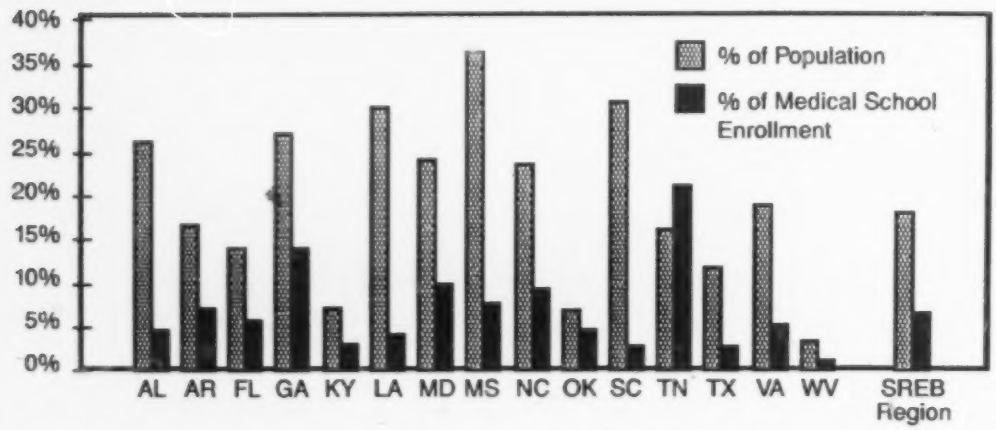
In contrast, *Bowman Gray School of Medicine* (Wake Forest University), with 10.2 percent blacks among new first-year students, appears to be moving toward improving its overall 6.2 percent black enrollment.

As a group, the private medical schools were well ahead of the region's public schools in 1990-91 in enrolling black students, with 11.3 percent compared to 5.2 percent black students, respectively. Even when Morehouse and Meharry are left out of the equation, the 11 other private schools still had a slight lead, at 5.3 percent. When Morehouse and Meharry are included, the 13 private schools accounted for 43 percent of the black medical students in the region, though they had only 26 percent of all medical enrollment.

In the region as a whole, the 6.8 percent of medical students who were black in 1990-91, was barely over one-third of the percentage of blacks in the population. Figure B compares the black population of each SREB state to total enrollments of black medical students in the state.* In only three states was the percentage of blacks among medical students as great as half their percentage in the population. Not surprisingly, two of these states, Tennessee and Georgia, are home to the region's two predominantly black medical schools. Tennessee actually has a higher percentage of blacks among medical students than among its population, primarily because of the 225 black students at Meharry. The smaller and newer Morehouse School of Medicine has somewhat less impact on overall enrollment percentages in Georgia.

FIGURE B

Blacks as a Percentage of Population and Medical School Enrollments, SREB States, 1990-91



SOURCES: SREB Survey of Medical School Enrollments, 1990-91; U.S. Department of Commerce, Bureau of the Census.

* Including independent schools in these comparisons produces some distortion because of the high percentage of out-of-state students at some schools. For example, 189 of the 225 black students at Meharry in 1990-91 were from states other than Tennessee. However, because many regional students are enrolled in these schools, exclusion would distort comparisons between states still more severely. For example, Georgia, the fourth most populous state in the region, is 27 percent black. Georgia would have only one medical school if its three independent schools were not included. Yet the state of Georgia provides significant financial support for large numbers of students at each of those schools, including more than 60 percent of the black students enrolled at Morehouse.

Oklahoma stands out most impressively when enrollments of black medical school students are viewed in this way. The difference between the 4.7 percent black students in its two medical schools in 1990-91 and the 6.9 percent of its population that is black was significantly smaller than that in any other SREB state except Tennessee. Oklahoma contrasts particularly sharply with Alabama, Louisiana, Mississippi. South Carolina, and Texas, whose percentages of black medical students were less than one-quarter of their black populations. None of these states except Alabama are among the six SREB states that increase opportunities for black students through contracts with Meharry and/or Morehouse. Alabama's participation in contract programs with the two schools has fallen from 15 students in 1983 to six (all at Meharry) in 1990-91.

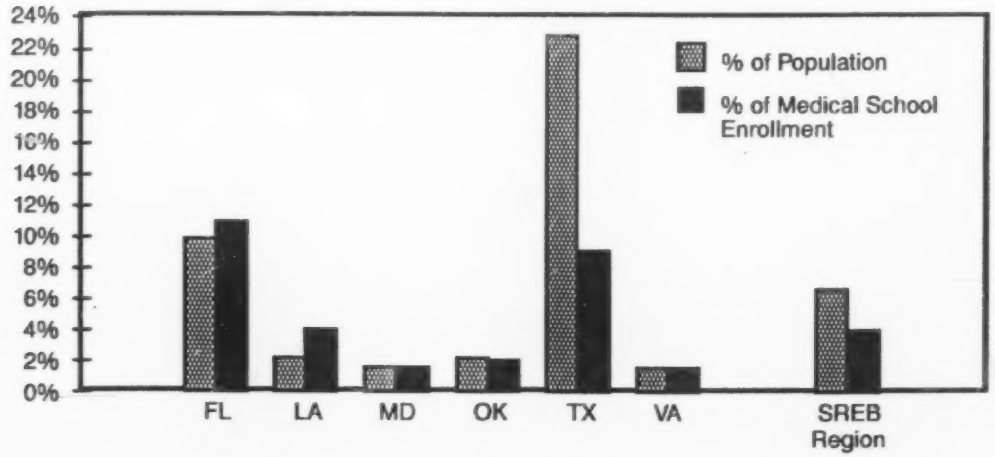
Hispanic Enrollments

Enrollments of Hispanic students are heavily concentrated in the two SREB states with the largest Hispanic populations. Among public schools, the seven in Texas and two in Florida monopolize the top nine rankings in percentage of Hispanic students, ranging from 13.2 percent at *The University of Texas Health Science Center at San Antonio* in 1990-91, to 5.9 percent at the *University of Florida*. Only one public school outside of these two states exceeded the regional average of 4.1 percent Hispanic students--*Louisiana State University at New Orleans* (4.5 percent). Taken together, these 10 schools enrolled more than 80 percent of all the Hispanic students in the region's 32 public medical schools.

The independent *University of Miami* led all schools in the region in enrollment of Hispanic students in 1990-91, with 15.7 percent overall and 19.5 percent among new first-year students. *Southeastern College of Osteopathic Medicine*, located in North Miami Beach, was second among independents and third overall, with 11.3 percent. Both Miami and Southeastern led Florida's two public schools in Hispanic enrollment. In Texas, the independent *Baylor College of Medicine* trailed all seven of the state's public schools, though it still had a higher percentage of Hispanics than any school outside Texas or Florida.

FIGURE C

Hispanics as a Percentage of Population and Medical School Enrollments in Selected SREB States, 1990-91*



*States with more than 1 percent of the population Hispanic; Hispanics may include individuals of all nationalities and races.

SOURCES: SREB Survey of Medical School Enrollments, 1990-91; U.S. Department of Commerce, Bureau of the Census.

One factor affecting the distribution of Hispanic students among Florida's medical schools undoubtedly is the fact that the two independent schools are located in the area of the state most heavily populated by Hispanics. In discussions with schools familiar with Hispanic students, a common theme was that these students often are more reluctant than other applicants to move away from their families to attend school. Similarly, the leading Texas school, The University of Texas Health Science Center at San Antonio, is located in the area of that state with the largest Hispanic population.

As Figure C indicates, Florida medical schools as a whole are doing an impressive job of providing Hispanic students with opportunities for medical education. Texas is doing somewhat less well relative to its much larger Hispanic population. It is possible that differences between the two states in this area may be explained in part by differences in the characteristics of the two Hispanic populations. That question cannot be answered here (see Note on Methods, Appendix B). It should be noted, however, that both Florida and Texas have been more successful in providing opportunities for their Hispanic populations than for blacks.

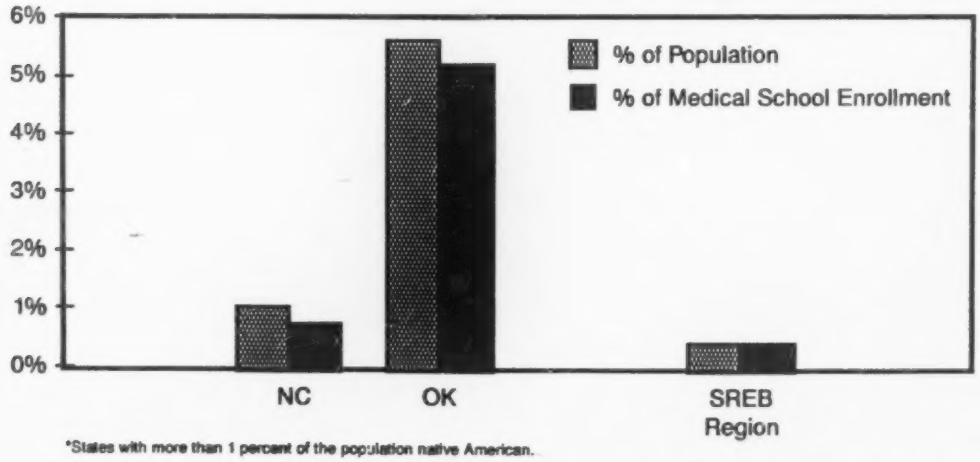
Native American Enrollments

With a total of 43 students, Oklahoma's two medical schools enrolled 44 percent of the native American medical students in the region in 1990-91. This is not surprising--the state has 42 percent of the region's native American population. At both schools, native Americans are the most heavily represented of the three minority groups discussed here, although they make up a slightly smaller percentage of Oklahoma's population than blacks.

At 5.9 percent, *Oklahoma State University College of Osteopathic Medicine* led the region in native American enrollment in 1990-91, and the 9.6 percent of new first-year students who were native American is still more impressive. The *University of Oklahoma*, with 5 percent total and 5.3 percent new first-year native American students also is doing an excellent job in serving this segment of the state's population.

FIGURE D

Native Americans as a Percentage of Population and Medical School Enrollments in Selected SREB States, 1990-91*



*States with more than 1 percent of the population native American.

SOURCES: SREB Survey of Medical School Enrollments, 1990-91; U.S. Department of Commerce, Bureau of the Census.

North Carolina is the only other SREB state with more than 0.6 percent native American population. *East Carolina University's* 2.4 percent total and 4.2 percent new first-year native American enrollment in 1990-91 were both considerably higher than this group's 1.1 percent of the population. The *University of North Carolina at Chapel Hill*, with 0.8 percent native American students and no new first-year students, ranked sixth in the region, behind Texas Tech University and The University of Texas Medical Branch at Galveston.*

In Oklahoma and North Carolina, native American populations are sufficiently numerous, and tribal identities sufficiently strong, that counts of native American students are probably fairly meaningful. In other SREB states, however, reported native American enrollments may have little relation to minority recruitment and retention. A number of medical school officials, when asked about the native American students they had reported, dismissed these as students who self-identified only because they thought minority status might be advantageous in terms of financial aid. This may explain in part why percentage native American enrollment for the region as a whole more closely matches the region's native American population than is true in either Oklahoma or North Carolina (Figure D).

These same problems also make it difficult to judge the significance of the fact that the region's independent medical schools report substantially lower native American enrollments than the public schools. Even if Oklahoma is left out of the equation, the percentage of native Americans enrolled in the region's remaining public schools in 1990-91 was well over double that in the independents, two of which are in North Carolina. In fact, four individual public schools outside of Oklahoma each enrolled as many or greater numbers of native Americans as all of the independents combined.

Enrollments of native American students have improved remarkably over a 20-year period, both in the SREB region and in the United States as a whole. In 1971-72, only five native American students were enrolled in medical schools in SREB states. None of the four medical schools operating in Oklahoma and North Carolina at that time had any native American students and there were only 35 native American medical students nationwide, less than the number enrolled in the two Oklahoma schools alone in 1990-91.

COMPARISONS OF SCHOOLS WITH HIGH AND LOW PERCENTAGES OF MINORITY STUDENTS

Twenty-four medical schools identified as having either relatively high or low enrollments of minority students were asked to provide data on numbers of applicants, applicants interviewed, applicants offered admission, graduation rates, and faculty. The data submitted by these schools were analyzed using two different types of aggregation. One grouping included all 24 schools separated into four categories: two predominantly black schools (average percentage of black, Hispanic, and native American students, 1990-91, 77 percent); twelve M.D. schools with relatively high enrollments of minority students (14.6 percent); two D.O. schools with high enrollments of minority students (19.7 percent); and eight M.D. schools with low enrollments of minority students (4.6 percent). The schools included in each of these categories are as follows:

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* The native American populations of most states, including North Carolina, are too small to permit meaningful comparisons of enrollments from year to year for individual medical schools, because very small variations in numbers of students can change enrollment percentages significantly. During 1989-90, The University of North Carolina at Chapel Hill enrolled nine native Americans, four of whom were seniors who graduated, while no new native American students were enrolled. This change of just four students overall moved the school from 1.4 percent native American enrollment, well above the state's 1.1 percent population, to well below it. A similar situation applies to Hispanic populations in some states.

A. Predominantly black M.D. schools

Meharry Medical College (I)
Morehouse School of Medicine (I)

B. M.D. schools with high percentages of minority students

East Carolina University School of Medicine (P)
East Tennessee State University Quillen College of Medicine (P)
Johns Hopkins University School of Medicine (I)
University of Maryland at Baltimore School of Medicine (P)
University of Miami School of Medicine (I)
University of North Carolina at Chapel Hill School of Medicine (P)
University of Oklahoma Health Sciences Center College of Medicine (P)
University of South Florida College of Medicine (P)
Texas A&M University College of Medicine (P)
University of Texas Medical Branch at Galveston School of Medicine (P)
University of Texas Health Science Center at San Antonio School of Medicine (P)
University of Texas Southwestern Medical Center at Dallas Southwestern Medical School (P)

C. D.O. schools with high percentages of minority students

Southeastern University of the Health Sciences College of Osteopathic Medicine (I)
Oklahoma State University College of Osteopathic Medicine (P)

D. M.D. schools with low percentages of minority students

University of Alabama School of Medicine (P)
University of Kentucky College of Medicine (P)
University of Louisville College of Medicine (P)
Marshall University School of Medicine (P)
Medical University of South Carolina School of Medicine (P)
University of South Carolina School of Medicine (P)
Vanderbilt University School of Medicine (I)
West Virginia University School of Medicine (P)

P = Public I = Independent

The second grouping of schools included only the 18 public schools from this list, grouped in two categories: the 10 public M.D. and one D.O. school with high enrollments of minority students (1990-91 average, 14.1 percent) and the seven public M.D. schools with few minority students (4.5 percent on average). It should be emphasized that all references to high-minority schools are relative, since no medical schools other than the two predominantly black schools enroll minority students at levels equivalent to their representation in the population.

Applicants

The number of applications received by any individual medical school depends on a variety of different factors, including academic reputation and applicants' perceptions of how competitive the school's admissions may be. For public schools, which normally give priority in admissions to in-state residents, the size and composition of each state's population will affect the applicant pool.

TABLE 2

Distribution of Applicants to Selected Medical Schools in SREB States for the 1990-91 Entering Class

MEDICAL SCHOOL CATEGORY	TOTAL	BLACK	PERCENT BLACK	HISPANIC	PERCENT HISPANIC	NATIVE AMERICAN	PERCENT NATIVE AMERICAN
			AVERAGE NUMBER OF APPLICANTS PER SCHOOL				
Predominantly Black (n=2)	1,928	948	49.2	76	3.9	8	0.4
High-minority M.D. (n=12)	1,650	129	7.8	114	6.9	9	0.5
High-minority D.O. (n=2)	748	30	4.0	33	4.4	12	1.6
Low-minority M.D. (n=8)	1,288	67	5.2	29	2.3	4	0.3
			AVERAGE NUMBER OF IN-STATE APPLICANTS PER SCHOOL				
High-minority public (n=11)	832	62	7.4	80	9.6	7	0.8
Low-minority public (n=7)	284	21	7.5	2	0.7	1.5	0.5

SOURCE: SREB Survey of Medical School Enrollments, 1990-91

Table 2 indicates average numbers of applicants for the 1990 entering class to medical schools in each of the four all school categories and average numbers of in-state applicants to each of the public school categories. The two predominantly black schools, both of which are independent, had the largest average number of total applicants; half of those applicants were black, though relatively few were Hispanic or native American. The M.D. schools with high enrollments of minority students had greater average numbers and percentages of applicants in every minority category than the low-minority M.D. schools. The relatively low numbers and percentages of minority applicants to the two D.O. schools are particularly interesting, given that one of every five students enrolled at those schools during 1990-91 was black, Hispanic, or native American.

The size and composition of state populations is reflected most clearly in the figures for in-state applications to public schools. The percentages of blacks among all applicants to both groups of schools are almost identical. This is consistent with the populations of the states represented. Although the individual states vary considerably, the six states in which the schools with high percentages of minority students are located have an average black population of about 15 percent, while the four states where the schools with few minority students are located average about 18 percent black. The differences in actual numbers of total black in-state applicants derive directly from the aggregate populations of the groups of states they represent. Similarly, numbers and percentages of in-state Hispanic and native American applicants reflect the fact that several of the high-minority schools are in the SREB states with the largest populations in those categories.

Applicants Interviewed

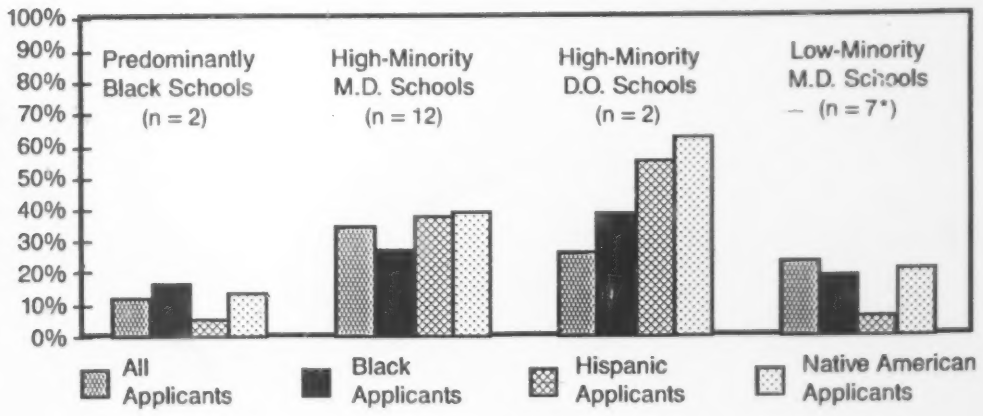
Figure E shows percentages of total black, Hispanic, and native American applicants interviewed by category of school. One school--the University of South Carolina--could not provide this information for minority applicants.

The two predominantly black schools interviewed smaller percentages of applicants in every racial/ethnic group than those in any other category, followed by the low-minority M.D. schools. In addition to having fewer applicants than the high-minority M.D. schools, the low-minority schools also interviewed smaller percentages of both total and minority applicants. This meant that they interviewed an average of only 13 black applicants each, compared to an average of 35 interviewed by each high-minority M.D. school. Both categories of M.D. schools interviewed smaller percentages of black applicants than of all applicants. In contrast, the two D.O. schools were more likely to interview applicants in all minority groups than non-minorities.

Figure F presents a rather different picture for public schools. Low-minority public schools actually interviewed higher percentages of both total and black in-state applicants than those with higher enrollments of minority students. However, the differences in actual numbers of these applicants mean that the low-minority schools were still interviewing substantially smaller numbers of in-state applicants--an average of 200 total and less than 10 black interviews per school, versus 457 total and 27 black interviews for the high-minority schools. Black in-state applicants had 80 percent as much likelihood of being interviewed at high-minority schools as all applicants, but only 68 percent as much chance at low-minority schools.

FIGURE E

Percentages of Applicants Interviewed at Selected Medical Schools in SREB States, 1990-91 Academic Year

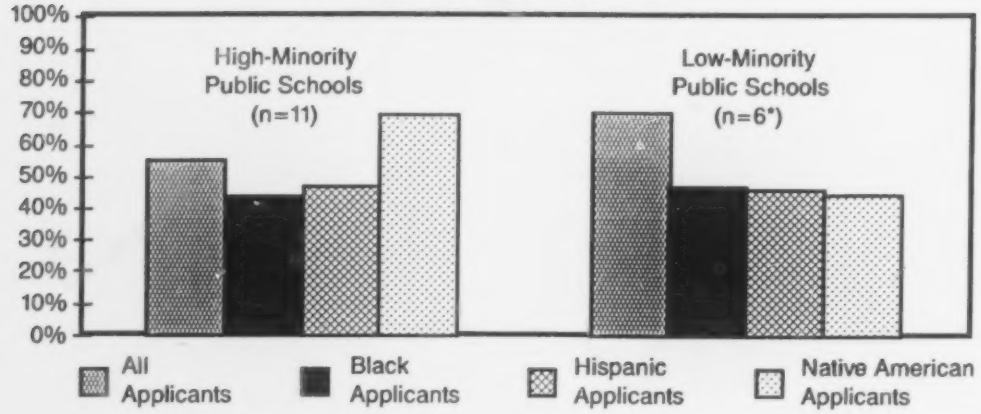


*Interview data not available for University of South Carolina.

SOURCE: SREB Survey of Medical School Enrollments, 1990-91.

FIGURE F

Percentages of In-State Applicants Interviewed at Selected Medical Schools in SREB States, 1990-91 Academic Year



*Interview data not available for University of South Carolina.

SOURCE: SREB Survey of Medical School Enrollments, 1990-91.

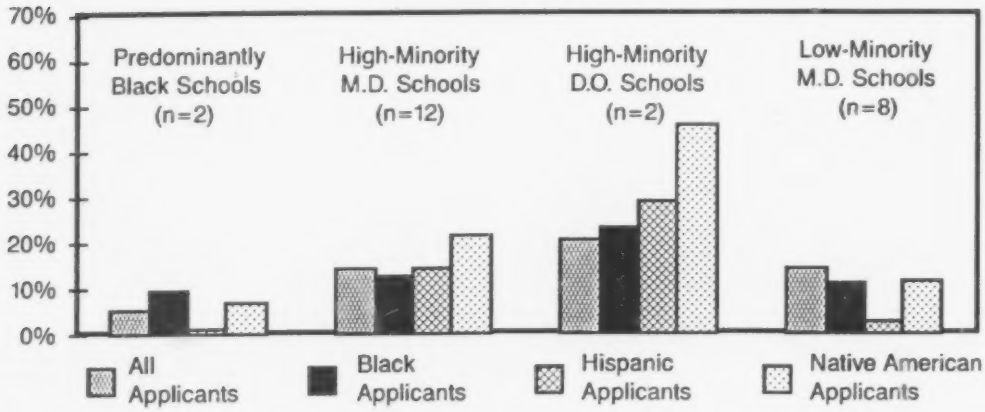
Applicants Offered Admission

Data on percentages of applicants offered positions reflect trends similar to those for applicants interviewed. The predominantly black schools offered positions to the smallest percentages of applicants in every racial/ethnic category, while the D.O. schools made the highest percentage of offers (Figure G). Both groups of M.D. schools offered positions to 14 percent of all applicants, but the high-minority schools made offers to higher percentages of all minority applicants than the low-minority schools.

Among public schools, the low-minority schools offered positions to half of their total in-state applicants, compared to less than one in four for the high-minority schools (Figure H). They also made offers to a higher percentage of their black applicants--24 percent compared to 20 percent. However, black in-state applicants to the low-minority schools had less than half as much chance of being offered admission as all applicants, compared to a 90 percent chance at the high-minority schools. Overall, the high-minority public schools made offers to an average of 30 in-state minority applicants, the low-minority schools to only six.

FIGURE G

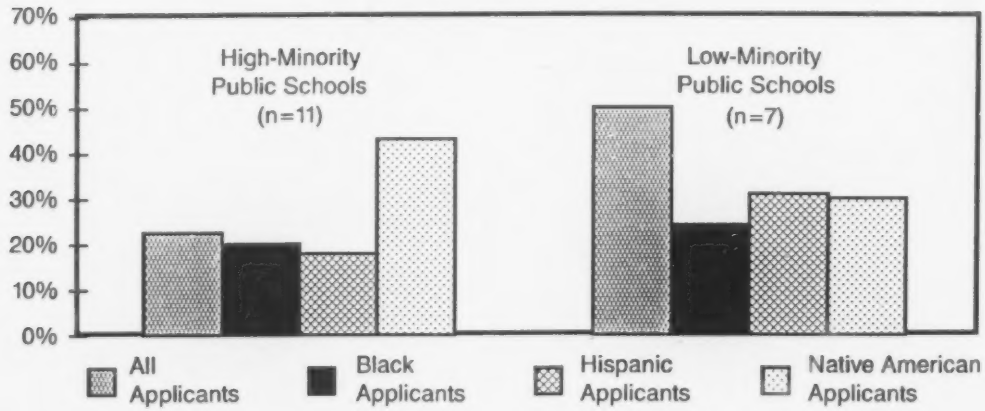
Percentages of Applicants Offered Admission to Selected Medical Schools in SREB States, 1990-91 Academic Year



SOURCE: SREB Survey of Medical School Enrollments, 1990-91.

FIGURE H

Percentages of In-State Applicants Offered Admission to Selected Public Medical Schools in SREB States, 1990-91 Academic Year



SOURCE: SREB Survey of Medical School Enrollments, 1990-91.

TABLE 3

Black, Hispanic, and Native American Applicants Offered Positions and Enrolled at Selected Medical Schools in SREB States, 1990-91

MEDICAL SCHOOL CATEGORY		AVERAGE OFFERED	AVERAGE ENROLLED	PERCENT ENROLLED	AVERAGE OFFERED	AVERAGE ENROLLED	PERCENT ENROLLED
		ALL APPLICANTS			MINORITY APPLICANTS		
Predominantly Black	(n=2)	107	57	52.8	90	44	48.3
High-minority M.D.	(n=12)	234	131	56.1	34	19	55.6
High-minority D.O.	(n=2)	154	99	64.2	22	19	86.4
Low-minority M.D.	(n=8)	183	101	55.4	9	5	52.1
		ALL IN-STATE APPLICANTS			IN-STATE MINORITY APPLICANTS		
High-minority public	(n=11)	187	120	63.9	30	17	55.5
Low-minority public	(n=7)	142	89	62.9	6	4	62.8

SOURCE: SREB Survey of Medical School Enrollments, 1990-91

Applicants Accepted and Enrolled

All medical schools offer admission to more students than they expect to enroll. The two D.O. schools had the greatest success in enrolling students in the 1990 entering class--almost two of every three accepted. The two predominantly black schools had the least--barely one of two (Table 3). (Minorities are aggregated for this analysis because of the extremely small numbers at low-minority schools.) The high-minority M.D. schools fared fractionally better than the low-minority schools in enrolling both accepted applicants and minority applicants.

TABLE 4

Out-of-State Students as a Percentage of Newly Enrolled First-Year Students at Selected Public Medical Schools in SREB States, 1990-91

MEDICAL SCHOOL CATEGORY		ALL NEW STUDENTS TOTAL	ALL NEW STUDENTS OUT OF STATE	ALL NEW STUDENTS PERCENT OUT OF STATE	NEW BLACK STUDENTS TOTAL	NEW BLACK STUDENTS OUT OF STATE	NEW BLACK STUDENTS PERCENT OUT OF STATE	NEW HISPANIC STUDENTS TOTAL	NEW HISPANIC STUDENTS OUT OF STATE	NEW HISPANIC STUDENTS PERCENT OUT OF STATE	NEW NATIVE AMERICAN STUDENTS TOTAL	NEW NATIVE AMERICAN STUDENTS OUT OF STATE	NEW NATIVE AMERICAN STUDENTS PERCENT OUT OF STATE
High-minority public	(n=11)	1,416	98	6.9	90	16	17.8	98	2	5.1	18	0	0.0
Low-minority public	(n=7)	715	89	12.4	26	5	19.2	3	0	0.0	3	0	0.0

SOURCE: SREB Survey of Medical School Enrollments, 1990-91

Among public schools, the low-minority schools were slightly less successful than high-minority schools in enrolling all accepted in-state applicants, but were more successful in enrolling accepted in-state minorities. However, the average number of minority students offered positions was so much smaller at the low-minority schools that this comparison is largely meaningless.

The data on applicants suggest that public medical schools with low enrollments of minority students are more solicitous than high-minority schools of in-state applicants of all racial/ethnic groups, both interviewing and offering positions to higher percentages of these applicants. However, their much smaller numbers of applicants mean that they ultimately enroll a higher percentage of out-of-state students than the high-minority schools (Table 4). Both categories of schools were more likely to enroll out-of-state blacks than other applicants.

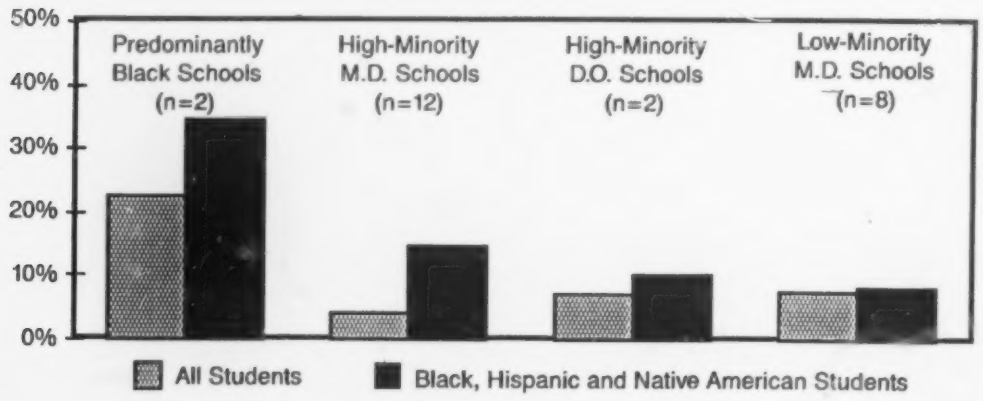
Repeaters

For a variety of reasons, many minority students enter medical school less prepared than the average non-minority student to deal with the basic science curriculum that dominates the first two years. Therefore, a willingness to be flexible in allowing students to repeat a year of this work if necessary may be critical to success in retaining and graduating minority students. As Figure I indicates, far higher percentages of all first-year students at the two predominantly black schools in 1990-91 were repeating their first year (or, in some cases, were in the second year of a formal extended curriculum) than in any of the other categories.

The low-minority M.D. schools actually had a higher percentage of repeaters among all first-year students than either the high-minority M.D. schools or the D.O. schools, and the percentage of repeaters among minority students was very close to that for all students. In contrast, the high-minority M.D. and D.O. schools had higher percentages of minority repeaters than non-minorities, as did the predominantly black schools. This suggests that the low-minority schools may be enrolling only minority students whose qualifications are essentially comparable to non-minority students, while the other three categories of schools may be enrolling larger numbers of academically at-risk minority students.

FIGURE I

Percentages of Repeaters Among First-Year Students at Selected Medical Schools in SREB States, 1990-91



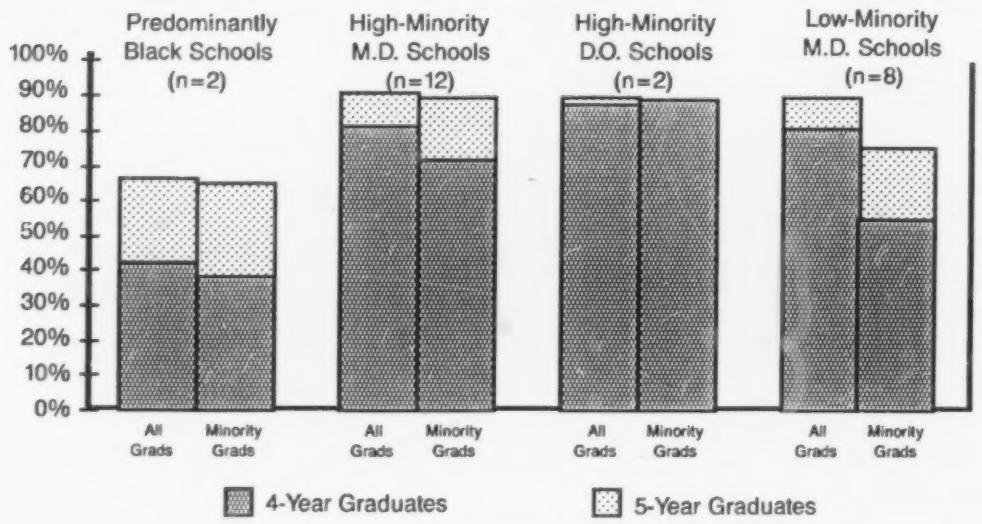
SOURCE: SREB Survey of Medical School Enrollments, 1990-91.

Graduation Rates

Each of the schools included in the detailed survey was asked to provide total numbers of students who were newly enrolled in 1985-86 and 1986-87 and numbers who had graduated or were expected to graduate within four and five years of first entering. The high-minority M.D. and D.O. schools and the low-minority M.D. schools all had very similar aggregate five-year graduation rates of about 90 percent for all students (Figure J). In both categories of M.D. schools, approximately 80 percent of new students graduated within four years and another 10 percent within five years. At the D.O. schools, in contrast, only a very small percentage of these graduates required an extra year to finish.

FIGURE J

Four- and Five-Year Graduation Rates at Selected Medical Schools in SREB States for Students Entering in 1985 and 1986



SOURCE: SREB Survey of Medical School Enrollments, 1990-91.

Among minority students, five-year graduation rates at both the high-minority M.D. and D.O. schools were very close to those for all students--89 percent. A higher proportion of minority students than all students required an extra year to finish at the M.D. schools, but the reverse was true at the D.O. schools. Both four- and five-year graduation rates at the low-minority M.D. schools were significantly lower for minority students than for all students--75 percent graduating after five years compared to 90 percent. This discrepancy is particularly interesting given previously cited data suggesting that the low-minority schools accept a smaller percentage of at-risk students than the high-minority schools. It suggests that the low-minority schools may be less effective at responding to the needs of minority students, regardless of their educational preparedness.

A note of caution: some medical students take longer than five years to graduate, including some who are allowed to take longer because of academic difficulties (this accounts in part for the lower four- and five-year graduation rates of the predominantly black schools). In addition, a number of schools offer combined M.D./Ph.D. programs, and these students, usually among the most academically outstanding, also commonly take more than five years to graduate (the predominantly black schools also include students in this category). Four- and five-year graduation rates, therefore, are not absolute retention figures, but instead reflect students completing a standard medical education program within a generally accepted normal time period.

Minority Faculty

The presence of minority role models on medical school faculties can be extremely important to the success of minority recruitment and retention efforts. Unfortunately, minority faculty are in extremely short supply. Among the 24 schools that provided this information, only 618 of 11,544 full-time faculty members were black, Hispanic, or native American--less than six percent (Table 5). A disproportionate number of these--143, 23 percent of the total--were at the two predominantly black schools. The two D.O. schools have significantly higher percentages of minority faculty members than either the high- or low-minority M.D. schools. This does not necessarily mean they have larger numbers of minority faculty, however, since osteopathic schools generally have much smaller full-time faculties than allopathic schools.

TABLE 5

Full-Time Minority Faculty at Selected Medical Schools in SREB States, 1990-91

MEDICAL SCHOOL CATEGORY		ALL FACULTY	BLACK FACULTY		HISPANIC FACULTY		NATIVE AMERICAN FACULTY	
			NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Traditionally black M.D.	(n=2)	215	138	64.2	5	2.3	0	0.0
High-minority M.D.	(n=12)	7,422	134	1.8	265	3.6	9	0.1
High-minority D.O.	(n=2)	66	2	3.0	12	18.2	1	1.5
Low-minority M.D.	(n=8)	3,841	51	1.3	44	1.1	7	0.2

SOURCE: SREB Survey of Medical School Enrollments, 1990-91

Although the percentages of minority faculty at high-minority schools are still extremely low in comparison to either enrollments or the population as a whole, they are considerably higher than at low-minority schools, and this may be significant. The high-minority schools have an average of 10 black and 22 Hispanic faculty, compared to 6 in each of those groups at the low-minority schools. With numbers this small, a difference of just a few students could have a sizable impact in terms of the demands placed on individual minority faculty members. On the other hand, the actual numbers also vary considerably from school to school within each category.

IMPLICATIONS

The Applicant Pool

The total number of applicants for admission to M.D.-granting medical schools in the United States peaked at 42,600 in 1974; only one in three applicants gained admission.[6] By 1988, the applicant pool had declined by 37 percent, to 26,700, and almost two of every three applicants were accepted.[5] Although numbers of applicants have risen in each year since 1988, reaching 29,200 in 1990, it is unlikely that the 1974 peak will be regained in the near future.[7] Applicants to D.O. schools did not reach their peak until 1984--4,100, with a 43 percent acceptance rate. By 1988 they had declined by 29 percent, to 3,000, with about 60 percent gaining admission, before rising to 3,200 in 1990.[8]

Numbers of minority applicants followed a similar trend, but at a slightly slower rate of decline. As a result, the percentage of minorities among all applicants actually increased slightly, with most of this gain coming among black females. Between 1981 and 1989, total black applicants to M.D. schools increased from 7.2 percent to 8.2 percent of the total, then slipped back to 8 percent in 1990. This is still well below the 12 percent of all Americans who are black, and the number of black male applicants has declined substantially, from a peak of nearly 1,700 in 1979 to barely 1,000 in 1990. Even among this limited applicant pool, college grade point averages (GPAs) and scores on the Medical College Admission Test (MCAT)--traditionally important considerations for admissions decisions--average significantly lower than for non-minority applicants.[9] For M.D. medical schools to have accepted enough black applicants in 1990 for their first-year enrollment to equal 12 percent, the acceptance rate for all black applicants would have had to be 93 percent. The actual acceptance rate for underrepresented minorities was 49 percent, compared to 65 percent for all other applicants.[2 5 7 10]

Numbers of minority applicants to D.O. schools have grown dramatically in recent years, though they still fall short of the numbers applying to M.D. schools. In 1976, blacks constituted only 1.6 percent of all osteopathic applicants; by 1989, that figure had increased to 7 percent, but fell back to 6.1 percent in 1990. Hispanic and native American applicants followed similar patterns for both M.D. and D.O. schools.[8]

Significant increases in the minority applicant pool in the near future are unlikely. High school graduation rates for minorities have stagnated at levels well below those for whites, and the percentages of minorities graduating from college are also very low. In 1989, blacks received only 5.7 percent of all bachelor's degrees awarded, Hispanics only 2.9 percent.[11]

Recruitment

To a large extent, the factors contributing to disproportionately low percentages of minority applicants are beyond the control of individual medical schools. Nevertheless, most of the schools with higher percentages of minority students have made some effort to increase the numbers of minority applicants, at least on a limited local level. Most of these efforts, whether at the high school or college level, are aimed at increasing minority participation in health careers in general as much as at recruiting specific students to specific medical schools. It seems obvious that these efforts help the medical schools to improve their visibility among potential minority applicants and also promote an image of themselves as schools that are sincerely interested in minorities. Moreover, research suggests that high school and college enrichment programs do improve minority applicant pools, both quantitatively and qualitatively.[12]

The schools that have been most successful in enrolling minority students all take great pains to emphasize the importance of reaching minorities as early during their educational careers as possible. The educational and financial obstacles to pursuing a medical career are sufficiently great that it is very difficult for most minority students to succeed if they do not make that decision before college. An overwhelming majority of the minority students interviewed for this study said they had decided to be physicians before reaching high school. The difficulty of the paths they describe in reaching their goals suggests they probably would not have succeeded had it been otherwise.

Admissions

Problems relating to the relative sparsity of minority applicants to medical school unarguably provide a partial explanation for the underrepresentation of minorities in medicine. These problems do not preclude legitimate questions about how well medical schools are doing in response to the existing applicant pool.

MCAT Scores

Medical schools that have enrolled relatively few minority students often cite the lack of sufficient numbers of "qualified applicants" as the primary reason for their low numbers. In this context, the term qualified usually refers to applicants who can be expected to encounter minimal academic difficulties in the medical curriculum. When asked to define a qualified applicant, representatives of many schools begin with a minimum MCAT score. Materials provided by one of the eight low-minority M.D. schools in this study included a statement that

> ...only six resident Black students of the 75 (state)-resident Black students who took these MCAT administrations achieved MCAT scores greater than 40..., the empirically derived minimum score which predicts academic success... The remaining 69 Black students achieved scores which were not predictive of academic success.

Statements such as this clearly reflect the importance given to test scores in the admissions process, as well as the negative expectations the school attaches to any students who do not meet this particular standard.

In contrast, schools with high enrollments of minority students, acknowledge differences in the educational credentials of average minority and non-minority applicants, but approach those differences with much less certainty about the implications. They define success not as a lack of academic problems during medical school, but rather as the ultimate completion of the curriculum and attainment of licensure. Essentially, they apply the test of success to the end product, the graduate physician, rather than to performance during the educational process. This allows substantially greater flexibility in the evaluation of applicants. Instead of standing as barriers to admission, MCAT scores become useful indicators of individual strengths and weaknesses, to be evaluated in the context of other, more subjective characteristics. Instead of predictors of failure, they become positive tools that help schools identify the actions needed to increase students' chances of success.

The usefulness of MCAT scores and undergraduate GPAs in evaluating medical school applicants has been widely and controversially debated.[13] [14] [15] [16] [17] It is generally agreed that what predictive value these factors have is limited to the basic science portion of the medical school curriculum. For students who get through the basic sciences successfully, there is little evidence of any correlation between test scores or GPAs and performance in the clinical years.

None of the medical schools with high percentages of minority students would be likely to argue that test scores are worthless. They might disagree with the low-minority schools, however, about the levels at which quantitative measures become meaningful and how important they are relative to other characteristics. Virtually all of them can point to students, both minority and non-minority, admitted with very low MCAT scores and marginal GPAs who progressed through the curriculum with no difficulty. Similarly, they all have had students with strong MCATs and high grades who encountered serious academic problems once they were in medical school. In general, they agree that very high scores *usually* predict few problems, while very low scores *usually* indicate that a student will need some special help. Definitions of very high and very low may vary, but recognition that *usually* is not the same as *always* is common to all of the high-minority schools profiled in this study. It helps to prevent predictive tools from being transformed into self-fulfilling prophecies.

Measuring Personal Attributes

Even many of those who believe most strongly in the predictive accuracy of MCAT scores and GPAs will usually concede that quantitative measures can be misapplied and that other characteristics should be given serious consideration. In responding to the survey used in this study, several schools with low enrollments of minority students used rhetoric asserting sensitivity to the need for flexibility in evaluating minority applicants. The low numbers of minority students enrolled in these schools, however, suggest that this sensitivity has not been put into effective practice. Convincing members of admissions committees of the need to judge applicants by non-traditional measures, and giving them confidence in their ability to do so, is a serious obstacle to increasing minority admissions.

Numerous attempts have been made to define subjective characteristics that are predictive of potential to become a successful physician.[18] [19] But how do you teach someone to measure character and integrity, motivation, personal effectiveness, leadership, positive self-concept, or realistic self-appraisal? The high-minority schools included in this study have dealt with this problem by a variety of means. In some cases, skeptical administrations have delegated the responsibility to minority faculty and staff, an approach that increases minority enrollment, but does little to sensitize majority faculty to the needs of minority students. In other cases, committed individual non-minority administrators have led by example, an approach that can be effective in the long run only if leaders remain in place for long periods or are replaced by others who share their commitment. The most successful schools are those that have an institutional commitment to producing physicians who reflect all segments of the population, and make it clear that all faculty are expected to share that commitment.

Based on the experience of the high-minority schools, one of the most effective tools available for making the admissions process more sensitive to minority applicants is the Simulated Minority Admission Exercises offered by the Association of American Medical Colleges. For several schools, the use of this program was a turning point in efforts to increase minority student enrollment and to improve their ability to identify minority applicants who have the best chance of becoming successful physicians.

Court-Ordered Desegregation

Any effort to address minority medical school admissions must consider the role played by court-ordered desegregation. Both North Carolina and Maryland, for example, have faced court intervention mandating improved opportunities for minorities in higher education. While this may have played a role in the initiation of some efforts to improve medical school enrollments it does not diminish the fact that, in medical education at least, those efforts have been wide-ranging and effective (although it must be noted that University of North Carolina at Chapel Hill had relatively high percentages of minority medical students prior to court intervention). A number of other states that have been under court order have had decidedly more mixed results. Whether court intervention in South Carolina would have improved that state's very low enrollments of minority medical students can only be speculated upon. Oklahoma's medical schools are doing very well relative to its minority population without court intervention.

Retention

Enrolling large numbers of minority medical students would be meaningless unless those students graduate and become physicians. Many different factors go into determining how well a student copes with the demands of medical school. The quality of the student's previous educational experience certainly plays a role, but so too do psychological and social factors. A successful retention effort must provide both academic and personal support.

A recent SREB report clearly documented the continuing difficulties of being a minority student on any type of campus, whether black students on predominantly white campuses or white students on predominantly black campuses.[20] Non-black students at Meharry and Morehouse are as likely to experience

problems of isolation and lack of social support as black students at predominantly white medical schools. Personal characteristics of the individual, including race, interact with both the institutional and social environments to affect the educational experiences of all students.[21]

Academic Support

Most retention problems in medical school occur during the basic science portion of the curriculum, which traditionally occupies the first two years. Success in the basic science curriculum is dependent largely on ability to master enormous amounts of factual information. With the explosion of biomedical knowledge during the past half-century, the amount of material to be learned has increased dramatically, while the length of time devoted to it has remained essentially unchanged.

The high-minority schools do not wait for students to fail before intervening. Instead they identify those areas in which students are most likely to need help and attempt to prepare students to cope with the problems they seem likely to encounter. Research on retention of black students in college has found that many black freshmen who have not been intellectually challenged in high school enter college with unrealistically high academic expectations. When those expectations are not realized, students may lose confidence in their own ability.[22] This scenario often is repeated in medical school.

Some non-minority as well as minority students enter medical school with academic deficiencies that are a result of inadequacies in their previous educational experiences rather than lack of intellectual ability. Minority students are in an especially precarious position entering medical school, however. Not only are they plunged immediately into the most academically stressful portion of the curriculum, they are also more likely than non-minorities to be isolated from support systems they previously depended upon, and that have depended upon them. This results in a double bind. Minority medical students are frequently the most successful members of their families. It is not unusual for them to be a major source of both personal and financial support for relatives. The demands of the medical curriculum mean that students are less able to obtain support from families and less able to respond to demands made upon them. The results of this dilemma can be devastating to a student's confidence and self-image. One recent study found that many minority students actually enter medical school reporting more social supports, higher self-esteem, lower anxiety, and more internal locus of control than non-minorities. After one year, however, white students show improvement in these areas, while both black and Hispanic students show increased distress.[23] Faculty and staff at several of the high-minority schools commented that one of the most important things they have to do is to convince minority students of the need to be selfish for a few years and concentrate on getting through medical school.

While the schools with relatively high enrollments of minority students are not uniform in the structure of their support services, they all recognize that students are individuals with unique strengths and weaknesses, and they understand the interaction between academic and psychosocial problems. They recognize that minority status *may* bring with it certain attendant problems, but they also recognize that minority students are no more homogeneous than non-minorities. Thus, they are *prepared* to recognize problems related to race or ethnicity, *but they do not assume* that those problems automatically apply to every minority student. One of the most frequent comments from minority students at high-minority schools was that they were pleased because the school responded to their needs without treating them too differently from other students.

Prematriculation programs can be extremely effective for newly admitted students who are perceived to be at academic risk. In most cases, however, such programs can serve only a limited number of students (the programs for all students at Meharry and Morehouse are exceptions). It is important to avoid any assumption that *only* students in a prematriculation program will have difficulty or that *all* of those students will have difficulty. All of the high-minority schools, whether or not they offer a prematriculation program, make special efforts from the first day of the first semester to monitor the performance of all students and to make help available, whether or not a student has been previously identified as being at high risk. In some

cases monitoring is through formal testing and evaluation; in others it is less structured but relies heavily on individual faculty to identify students in difficulty and make them aware of services available to help them.

A willingness to allow students to repeat portions of the curriculum if necessary is a logical extension of this type of supportive approach. Early intervention programs minimize problems, but cannot prevent them entirely. Recognizing that students are not homogeneous means recognizing that some will require more time to address their problems than others, and that some may have to be allowed to fail before they will accept their deficiencies and seek help.

Personal Support

Faculty and staff who can serve as role models for minority students are very important. The limited pool of available minority faculty makes this a difficult problem, but even one or two individuals can make an enormous difference for minority students. The problem is complicated by the enormous burden such a situation can place on the few minority role models. Commonly, they will be asked to serve on multitudes of committees, and students will make great demands on their time. If they attempt to meet all these demands, as most in fact do, they may find that their careers suffer because they are unable to give adequate attention to the kinds of activities that are usually rewarded with tenure and promotion. Medical school administrators need to be prepared to take steps to ensure that minority faculty are not forced to choose between their careers and their students.

The high-minority schools included in this report represent a broad range of different models of social support. Minority student organizations, whether SNMA affiliates or not, can be extremely important to minority medical students. In some cases, especially where these groups have opened their arms to accept members who are outside of a particular minority group, they have become instruments for promoting racial understanding among all students. Another model that more schools might consider is to build formal support groups among minority alumni. Such groups can be very useful in identifying potential students and easing the burden on minority faculty role models.

Financial Support

The importance of providing financial support for economically disadvantaged students cannot be overemphasized. The high-minority schools are virtually unanimous in identifying financial need as the most serious problem limiting minority recruitment and retention. No program of academic and personal support, no matter how strong, can help a student who cannot meet the financial requirements for medical school. This means not just being able to cover the soaring cost of tuition, fees, and books, but having a safe place to sleep and enough to eat. Almost all high-minority schools can talk about the effects of malnourishment on at least a few minority students. (Some students sacrifice their own well-being to send a portion of their financial aid home to their families.) Many also have horror stories about the problems minority students face in obtaining safe, affordable housing. (Most medical schools provide little or no on-campus housing.)

Many students are able to work while going to college, but the intensity of the work load in medical school almost always precludes this option. Even participating in summer enrichment or prematriculation programs can cause serious financial hardships for students in terms of lost income. Student aid grant programs have declined over the past decade, with the result that students depend to an ever-increasing degree on loans, building a level of personal debt that can have a crippling effect on their career options even if they do manage to graduate. Improved financial aid programs for financially disadvantaged medical students are essential if minority enrollments are to continue to improve.

CONCLUSION

High-minority schools accept minority students who are at academic risk knowing in advance that they may have difficulty with the curriculum but recognizing that, given the right kinds of help, most of them will complete the curriculum successfully. They are willing to expend the energy and resources needed to provide this extra help in order to produce graduates who are representative of the population as a whole.

Each of the 16 high-minority medical schools profiled in this study understands that to be a member of a minority group is not quite the same as being a member of the majority. That understanding has different origins at different schools, and it is manifested in widely varying ways. Its fundamental effect, however, is to produce an admissions process that evaluates minority applicants somewhat differently than non-minorities. It also results in an educational environment that recognizes that individual learning styles may vary according to students' backgrounds and that, while these variations may affect a student's need for special assistance in medical school, they do not predict ability to become a competent physician. Once schools accept these premises, they very quickly recognize that not all at-risk students are minorities, and that even non-minority medical students are individuals with unique problems and needs. As a result, the schools become more diverse and nurturing incubators for the diverse and nurturing physicians society needs.

Some of the schools in the region have made remarkable progress in improving minority enrollments in a relatively short period of time. Dramatic improvement can occur only where comprehensive efforts are made to change attitudes and behavior across the entire institution. An example of a very recent turnaround of this type is the *University of Tennessee, Memphis*, which increased its black enrollment from 13 students (1.8 percent) in 1985-86 to 52 students (8.8 percent) in 1990-91. In the early 1980s, UT-Memphis implemented strong recruiting efforts directed at minorities, a more flexible admissions process, and extensive academic and personal support services. One of the first things the school did was to take advantage of the AAMC's Simulated Minority Admission Exercises. To ensure that its commitment to minorities is accepted institution-wide, it also has developed seminars and workshops to address racial and ethnic issues. A cross-cultural component was added to the curriculum "to enhance awareness of cultural differences and the impact of culture on communication in a medical environment."[24]

Although the present study focuses on enrollment of minority students in medical schools, the issues apply equally to virtually every other area of health professions education. The chancellor of the University of Tennessee, Memphis emphasizes that efforts to improve minority recruitment and retention have been campus-wide and include the schools of allied health, dentistry, nursing, and pharmacy, as well as medicine. Each of these fields is extremely important for equal opportunity and for the quality of health care; in some of them, minorities have been even less well represented historically than in medicine. Any meaningful commitment to improving enrollments of minority students should have the same expectations for the pharmacy school or physical therapy program as for medicine.

It is notable that the high-minority schools cover a wide range of institutions and geographic settings. They include nationally recognized centers of academic excellence and newer, less established schools, free-standing academic health centers, and schools within general universities. They are located in inner city, suburban, and essentially rural settings. Differences of this sort appear to have little effect on either success or failure in enrolling and graduating minority students.

At the same time, it is important to recognize that neither the nation nor the region are doing well enough. Even some of the states with the highest numbers of minority students in medical school fall well short of providing equal opportunity for their minority populations. In other states, it appears that opportunities for minorities in medical education are very nearly nonexistent or limited to a level that suggests tokenism. Unquestionably, serious attention needs to be given to a wide range of approaches for improving the potential minority applicant pool. It is equally clear that much more could be done to take advantage of the existing applicant pool. The goal of medical school admissions should not be to turn an academic elite into a professional elite, but to find the best candidates from every group in society and build a corps of qualified professionals to serve all of the population. The schools profiled in this study provide ample evidence of how that can be accomplished.

RECOMMENDATIONS

Efforts to improve the recruitment and retention of minority medical students must begin with a commitment by individual schools to achieve that goal. State governments also have a critical role in providing both financial and moral support for those efforts.

- **All medical schools should make a commitment to bringing acceptance and retention rates for in-state minorities into balance with those for non-minorities.**

- **Neither individual schools nor states should impose medical school admission standards based on undergraduate grade point averages or MCAT scores that would arbitrarily exclude any in-state applicant from further consideration.**

- **All medical schools should take active measures to educate faculty and staff about cultural and economic factors that may result in unique characteristics and needs for minority students. The AAMC's Simulated Minority Admission Exercises provides one proven model for accomplishing this.**

- **All medical schools should take steps to increase the number of minorities on their faculties and should develop ways to recognize and reward faculty for the support they provide to minority and at-risk students.**

- **Medical schools that have had difficulty in recruiting and/or retaining minority students should consider forming partnerships with appropriate high-minority medical schools to share experiences and develop models for improving enrollments of minority students. States should encourage such partnerships, including those with schools in different states, and should provide financial support for such efforts as needed.**

- **States should take advantage of the resources of their health professions schools in efforts to increase minority student interest in and preparedness for health careers at the elementary and secondary levels.**

- **States should consider providing direct funding to medical schools for enrichment programs for college students and prematriculation programs for newly admitted at-risk students.**

- **All states should provide funding in the form of non-repayable scholarships or grants to assist financially disadvantaged students in meeting the expenses of medical school.**

- **Financial aid programs for economically disadvantaged students, including scholarship programs and SREB contract programs, should have flexibility to continue support for at least five years for recipients requiring this long to successfully complete medical school.**

- **States should provide sufficient on-campus housing for students who may have difficulty obtaining safe and affordable housing either because of financial or community constraints.**

PROFILES OF HIGH-MINORITY SCHOOLS

East Carolina University

The *East Carolina University School of Medicine* (ECUSM)--a unit of the University of North Carolina--enrolled its first class in the full four-year program in 1977. Located in Greenville, in the rural eastern part of the state, the school is ideally situated to accomplish its legislatively mandated mission--to expand opportunities in medicine for disadvantaged students and to improve the quantity and quality of primary care physicians serving North Carolina.

In 1990-91, ECUSM ranked second among public medical schools in the region in the percentage of black students enrolled, and third in the percentage of native Americans. ECUSM's record in enrolling black students has been excellent from the start, consistently averaging around 12 percent since 1979-80. It has maintained this level in spite of the fact that, as total enrollment has grown--from 105 in 1979 to 289 in 1990--numbers of black applicants have fallen sharply. ECUSM's 2.4 percent enrollment of native Americans in 1990-91 represents a substantial increase over the past decade. ECUSM also has done well in producing primary care physicians. From 1981 to 1989, ECUSM ranked fourth in the nation in percentage of graduates entering family practice residencies, and second in the region (behind the now defunct Oral Roberts Medical School). In 1991, more than one-third of the school's graduates chose family practice, compared to only 10 percent nationwide.[25]

ECUSM's success in enrolling minority students is largely a result of a sustained commitment by the medical school's leadership. In 1976, prior to enrolling its first class, the school established a Center for Student Opportunities (CSO). The purpose of the center was to identify and recruit minority students and others from disadvantaged backgrounds, to get them admitted, and to help them get through the program successfully. The CSO continues to be the focal point for activities aimed at such students. ECUSM faculty and staff emphasize that the CSO is not exclusively a minority program. They are proud of the fact that it also assists many rural, white students who otherwise might have little chance of going to medical school.

ECUSM's recruitment activities are the most extensive and comprehensive of any of the schools visited for this study. They include maintaining close ties with North Carolina universities that enroll large numbers of minority students, as well as with historically black institutions in Virginia. High priority is given to keeping premedical advisors on feeder campuses well informed and involved. At the state's two largest predominantly black institutions, ECUSM maintains part-time coordinators and offers academic support programs for promising students. Each spring, selected students from colleges throughout North Carolina are brought to the campus in Greenville for a three-day Medical Careers Opportunity Meeting. Each summer an intensive eight-week program is offered to continue the skills development and test preparation process and to give ECUSM faculty a chance to further evaluate strengths and weaknesses of potential students. Programs also are offered at high schools in eastern North Carolina to stimulate interest in health careers.

Critical to ECUSM's success with minority students is a willingness to take risks in the admissions process. Every minority applicant from North Carolina who completes a second stage application is invited for an interview. These students have "blind" interviews with admissions committee members who have not seen their application files. At the same time, two other members of the committee review the file. Admissions decisions are based on a broad evaluation of an applicant's potential to become a good physician. This includes objective factors like college grades and test scores, but gives equal weight to more subjective measures, such as maturity and commitment. No applicant is ever excluded from consideration on the basis of MCAT scores alone. Experience has shown that the single best predictor of a student's ability to succeed academically is performance during the eight-week summer program. In 1990-91, ECUSM had 341 full-time faculty members including only seven blacks and one native American, but two of the black faculty serve on the admissions committee.

Once students are admitted, every effort is made to help them get through the program. An advanced section of the summer program introduces newly admitted students perceived to be at risk to the first-year basic science curriculum. This prematriculation program also helps CSO staff to evaluate the types of special support students may need later. Academic services are tailored to the needs of the individual student.

ECUSM offers an extended curriculum intended to serve a preventive rather than remedial function. Students in danger of dismissal for academic reasons are offered an opportunity to drop one or two courses. They then take a reduced course load in the next two or three semesters before working back up to a full load and continuing normally. Passage of Part I of the National Board of Medical Examiners (NBME) exam is not required for promotion. Special efforts are made to help students in the extended curriculum build self-esteem. They are asked to assist faculty with labs and to provide support for new first-year students. Most students who take advantage of the extended curriculum graduate in five years instead of four. Occasionally, a student may take longer than five years, and in such cases they receive almost one-to-one faculty attention as they complete the basic science curriculum.

The state of North Carolina provides financial assistance to up to 20 economically disadvantaged first-year resident medical students annually, through the Board of Governors Medical Scholarship Program. These awards include a stipend of several thousand dollars plus tuition and fees. Although students accepted at any of the state's four medical schools are eligible (the program pays full tuition, whether the school is public or private), most recipients have been at either ECUSM or the University of North Carolina at Chapel Hill. In 1990-91, seven of the 20 new recipients were at ECUSM. The scholarships are renewable for a total of four years of support.

ECUSM recently inaugurated a big brother/big sister program that pairs upper class students with new entrants. An active Student National Medical Association (SNMA) chapter is important to all minority students, both as a source of support and a focal point for social activities. ECUSM has no student housing, and locating acceptable housing for minority students has been a high priority for the faculty and staff.

Students interviewed say they feel a strong sense of support and commitment from top administrators and find faculty generally accessible and prepared to provide whatever extra help may be needed. Though the process of change is sometimes slower than they would like, the students perceive the school as a place that wants them and wants to learn how to help them.

East Tennessee State University

East Tennessee State University's Quillen College of Medicine (ETSUCM) was established during the 1970s with the support of the United States Veterans' Administration. Although located in a region of northeast Tennessee that has a small minority population (2.8 percent), the school's 12.4 percent enrollment of black students in 1990-91 (15 percent among new first-year students) led all public medical schools in the SREB region. This success has been the result of sustained effort to improve upon a 3.5 percent black enrollment figure in 1979-80.

ETSUCM's commitment to minority students begins with the university's president, who has been in that position for most of the medical school's history. He believes that flexibility is essential in judging students and faculty. He has little patience with those who argue that accepting students with lower test scores means compromising quality, because he believes that quality cannot be measured by test scores alone. The medical school dean has similar strongly held views.

ETSUCM recruiters visit all predominantly black Tennessee colleges and universities and try to maintain as much contact with potential applicants as possible. The culmination of recruitment efforts is the Premedical Reinforcement and Enrichment Program (PREP), an eight-week summer institute designed to assist Tennessee students from disadvantaged backgrounds who are interested in health professions careers. The program focuses on skills development and academic support in specific subject areas. It offers instruction on three different levels, depending on how far students have progressed in their college careers. Of 185 students completing the PREP program through 1988, 37 have been accepted into a medical school.

ETSUCM also has a Minority Medical Student Research Apprenticeship Program that gives promising high school students a chance to spend a summer working with a faculty researcher.

In 1983, ETSUCM took advantage of the AAMC's Simulated Minority Admission Exercises. This was a watershed in improving the committee's ability to evaluate minority students. Although admissions officials say they are looking for minimum GPAs of 3.0 and MCAT scores averaging 7.5, these criteria are applied very flexibly for all Tennessee applicants. ETSUCM also recognizes that test scores may be less meaningful for minority students than others. (The lowest average MCAT score for any student admitted was 5, and that student completed the program successfully.) Applicants are interviewed by two people who have not seen their files. Each interviewer is then asked to give the applicant a "totally subjective" rating on a 30-point scale. Additional interviews may be done at the discretion of either the applicant or the interviewers. Safety valves built in throughout the admissions process allow for special considerations, and a subjective scale is also used to evaluate applicants during the final admissions committee review. The school has only six minority faculty members, all black, but one is a department chairman, and they are well represented in the admissions process.

Once students are admitted, those believed to be at greatest risk are invited to participate in a five-week Prematriculation Education Program (PEP) before the start of the first semester. This is a transition program that provides both academic and social support and orientation. Originally funded by a federal Health Careers Opportunity Program (HCOP) grant, the program has been funded by the medical school since 1989, although with a reduced number of students. Approximately half of the students in the PEP program are minorities. The staff of this program feel that many minority students have deficient study skills because they have never been challenged. As a result, they have no way of knowing they are deficient until they actually begin medical school work. The PEP program is geared toward identifying such problems early so that students are not caught by surprise and their confidence destroyed once the semester begins. After going through the PEP program, they are usually prepared to seek needed help early, and there is a strong tutoring program, utilizing Ph.D. students in the biomedical sciences, that is individually tailored to the needs of each student.

ETSUCM also offers an optional three-year basic science plan. This program is not limited to students in academic difficulty and may also be used by students with personal problems, such as heavy family responsibilities. While some students elect to enter the three-year program during their first year, all students are allowed to finish the first year if they wish before being required to shift to this program. Students generally feel that virtually all faculty are extremely supportive and accessible, with many opportunities to make connection with faculty one-on-one. ETSUCM has a big brothers/big sisters program and its SNMA chapter is the most active student organization at the medical school.

The state of Tennessee awards $10,000 scholarships to up to 20 black medical students at ETSUCM per year. Unlike many financial aid programs, the Tennessee program will continue support for up to five years.

The faculty and staff of ETSUCM view their fundamental goal as increasing the number of minority physicians in the state rather than enrolling a certain percentage of minority students. One admissions committee member succinctly described the school's commitment to minority students by saying "We're doing it because we believe it's right."

Johns Hopkins University

Johns Hopkins University School of Medicine has led all independent schools in the region except Meharry and Morehouse in black enrollment for more than a decade. At 9.8 percent, it had a higher percentage of black students in 1990-91 than all but three of the region's public medical schools.

As one of the most prestigious and well endowed medical schools in the United States, Johns Hopkins is in an enviable position to recruit the best qualified minority medical school applicants, and the school does make some special efforts to attract those students. Well qualified minority college students are contacted by admissions officers and minority faculty members, and the dean's office sponsors a recruiting weekend. At

the high school level, Johns Hopkins supports an advanced biomedical science program at Baltimore's Dunbar High School, where the entire curriculum is geared toward preparation for health careers. Undoubtedly, Hopkins strongest recruiting tool is its ability to offer financial aid--during 1990-91, 35 of 46 black students were receiving scholarship aid, at an average annual level of more than $14,000.

No special provisions are made for minority students in the admissions process. Hopkins is the only school in the region that does not require the MCAT. However, applicants who do not submit the MCAT must submit scores on either the GRE, SAT, or ACT. A minimum average score of 8 is required for those who submit the MCAT. In general, applicants who meet minimum standards are judged subjectively rather than on relative test scores and grades. The admissions committee is looking for well rounded students and wants a diverse student mix.

Once admitted, minority students find themselves in an environment that is extremely supportive of all students. All faculty are expected to respond to students' needs, and it is regarded as a failure on the part of the school if a student fails to complete the program. There is no formal extended curriculum, but students who fail too many courses and are dismissed may appeal, and reinstatement to repeat a year is almost routine.

Johns Hopkins has a full-time faculty of almost 1,400, only 17 of whom are black; but several of those individuals represent outstanding role models for black students. They play a large role, perhaps too large, in recruiting and providing support for minority students. Several black faculty members use personal funds to pay for minority programs in the school and in the surrounding minority community that are very similar to programs receiving institutional support at schools with far fewer financial resources.

The fact that Johns Hopkins has been able to attract significant numbers of black students whose test scores and GPAs are comparable to those of majority students undoubtedly is attributable in part to its nurturing, student-oriented atmosphere. That type of environment is good for all students, but it is especially beneficial to minority students, even those with strong academic backgrounds. It is disappointing that Johns Hopkins has been unable to reach larger numbers of minority students. Such students tend to flourish in a supportive environment like Hopkins', and the school could easily accommodate more minority students without straining its resources. Unfortunately, new first-year enrollment of black students in 1990-91 was 7.8 percent, down from previous years.

University of Maryland

At 9.7 percent in 1990-91, the *University of Maryland at Baltimore School of Medicine's* (UMAB) percentage enrollment of black students was virtually identical to that of neighboring Johns Hopkins, and its 12.1 percent new first-year black students was significantly higher than Hopkins. UMAB's enrollment of minority students has improved steadily over the past decade because of a commitment by the institution to do a better job in this area.

UMAB had relatively large numbers of black students at the beginning of the 1980s compared to most other medical schools in the region (6.7 percent), but the school faced serious retention problems early in the decade. As a result, UMAB not only has made a concerted effort to improve support for its students, it also has given more attention to recruiting and admitting minority students who have a good chance of success. This means looking beyond GPAs and MCAT scores to other more subjective factors, such as motivation. As the pool of minority applicants has declined, the emphasis on scores also has diminished. The average MCAT score for all students offered admission at UMAB is a relatively high 10. For accepted black students, the average is 8, and applicants with averages as low as 6 have been accepted.

UMAB staff are involved in recruiting efforts at Maryland colleges and universities, and there are partnership programs at middle schools and high schools in the Baltimore area, but the focus of recruiting efforts is on the admissions process. In 1983, when the retention problem was at its worst, UMAB took advantage of the AAMC's Simulated Minority Admission Exercises and found that there was an immediate improvement in the numbers of black students offered admission.

All Maryland residents are sent a second stage application. Those invited for interviews see two interviewers, who are not necessarily members of the admissions committee or minorities. Instead, UMAB tries to match applicants with interviewers who are graduates of the same college. UMAB has 29 full-time black faculty members, and, in most cases, at least two black admissions committee members review minority applications, but the school believes it is also important for majority faculty to interact with minority applicants. Several years ago, the nature of the interviews was changed to make them more effective as recruiting sessions for desirable students.

Once students are offered admission, every effort is made to enroll them. They are invited to the campus for a recruitment weekend, and they are contacted by current minority students who encourage them to enroll. UMAB's ability to offer financial support has improved in recent years with a state-funded program that now provides a scholarship averaging 45-50 percent of costs to most minority students.

A strong Academic Support Program has been developed to help students once they are enrolled. A prematriculation summer program taught by currently enrolled students is offered for entering students believed to be at risk. All entering students take an Early Assessment Exam, and academic performance is monitored to identify those with problems and others who may be potential tutors. A student who fails two major courses is dismissed, but allowed to appeal; a majority are reinstated. Most students with academic problems repeat only one or two courses, but a few elect an extended three-year program. Minority students generally say they receive as much special attention as they need, without being treated too differently from majority students. However, they also refer consistently to one black staff member--formerly in student services and now in the admissions office--who has been critical in helping them to deal with whatever types of problems they encounter.

UMAB has a very strong black alumni association, with 75-80 members in the Baltimore area (UMAB had its first black graduates in 1955), and these alumni play an extremely important role in recruiting and providing support for minority students. The strength of this connection may explain in part why the SNMA chapter has not been a more significant force for minority students, although that appears to be changing.

UMAB responded to a stressful retention problem in the early 1980s with a sincere attempt to change the way it dealt with minority students. Although activities aimed at minorities remain somewhat fragmented, all essential components appear to be in place. It can be anticipated that these will solidify in the near future into a single cohesive and comprehensive recruitment and retention program. UMAB is still looking for ways to improve--there is an annual workshop for interviewers and the AAMC minority admission exercises will be repeated in 1991. Faculty are also exploring ways to encourage more minority students to consider careers as medical educators. Equally important is that lessons learned in dealing with minority students are being applied to other students, with the result that UMAB is becoming a more nurturing and supportive environment for all medical students, regardless of race or ethnicity.

Meharry Medical College

Meharry Medical College School of Medicine was established in 1876 as the medical department of Central Tennessee College, an institution of the Methodist Episcopal Church. It became a free-standing institution in 1915. Meharry's dual mission is to provide opportunities for low-income and high-risk students who show an aptitude for the health professions, and to address the health care needs of minorities and the disadvantaged. Nearly 40 percent of the black physicians and dentists practicing in the United States are Meharry graduates, as are 40 percent of the black faculty in American medical colleges.

Meharry had almost 2,500 applicants for 80 positions in the 1990-91 entering class. More than 1,000 of those, 43.5 percent, were black. Positions were offered to 120 (7.5 percent) of the black applicants, but to only 32 (2.5 percent) of other applicants. Of those offered positions, 47 percent of blacks enrolled, compared to 75 percent for all others. Of the 80 students who enrolled, 56 were accepted only at Meharry.

As the 16 to 1 ratio of applicants to acceptances suggests, recruiting is not a major problem for Meharry. Finding and enrolling students who can succeed in medical school is more difficult. In selecting students for admission, Meharry has found that undergraduate grades are better predictors of success than test scores. On the MCAT, they pay particular attention to the reading and quantitative scores, and feel that a student who can score at least 5 in each of these areas will have a good chance of success. However, Meharry assumes that most of those with low MCAT scores will require special support to succeed. In general, white students must meet the minimum GPA and MCAT requirements of public medical schools in their home states to be considered for admission.

Because of its commitment to taking high-risk students, Meharry has long experience in providing a supportive academic community and making the student feel comfortable with the system. Specific services focus on development of reading, studying, time management, and test-taking skills, as well as on social, psychological, and financial problems.

Meharry has offered a unique Special Medical Program (SMP) for more than 20 years. Implemented in 1968, this program was developed to reach applicants who appeared to have potential to be good physicians but who could not be admitted under the fixed admission standards in place at the time. The program is based on small group participation, personal attention from faculty, and a flexible curriculum. Students in the SMP take 15 months to complete the first nine months of the normal curriculum. At that point, students whose performance is at the median level for the entire class may petition to enter the regular class. Those who remain in the SMP then take two years to complete the second year of the curriculum. Approximately half of all SMP students who have the option to leave the program after 15 months opt instead to stay in the SMP. Each year 16 students are accepted into the Special Medical Program. When the program was started, students in the SMP were stigmatized by their classmates, but this has changed over time as SMP students have had lower attrition rates than students in the regular program, and many SMP students have been at or near the top of their graduating class.

Many students admitted to Meharry take more than four years to graduate. There is no fixed limit on how long a student has to complete the program. Passage of Part I of the NBME is required for advancement from the second to the third year, however, and a rule was instituted recently requiring that the exam must be passed within four tries.

In 1990, an Early Entry Program was initiated in which *all* accepted students, including those in the SMP, were required to participate. All students accepted into the 1990-91 entering class were brought to the Meharry campus in July for five weeks of orientation and testing in eight subject and skill areas. Those identified as having problems were placed in peer tutorials as soon as the regular semester began. Of 80 students, 50 were found to have deficiencies in at least one area. Meharry has been pleased with the results from the program and plans to continue it.

Meharry has a student counseling service that is completely supported by a federal HCOP grant. The service takes the position that it will address any problem that distracts students from their studies. Psychological counseling is offered, including support for white students who feel isolated on the predominantly black campus, and efforts are made to help students find transportation and safe, affordable housing. The most serious problems, and the most difficult to deal with, are financial, affecting 95 percent of all students. Many Meharry students are from one parent families, and many are the first in their families to have gone to college. Every year, at least one or two accepted students arrive on campus with little money, nowhere to live, and few possessions other than the clothes they are wearing. Meharry makes every effort to help these students, but is hampered by limited resources.

The decline of state participation in the SREB student contract program has been a major source of financial difficulty for Meharry. Of a total of 291 students enrolled during 1990-91, 60 were partially supported through contract programs with six SREB states. More than half of these (36) were from Tennessee; Alabama and Georgia each supported six students; North Carolina, five; Maryland, four; and Virginia, three. Through SREB, these states provided capitation funding to Meharry for each student.

In return, contract students receive a tuition remission. The Meharry contract programs originated in the late 1940s, but have been declining since 1981, when eight SREB states were committed to support more than 150 students. An added problem is that contract support is not continued for students who require more than four years to graduate.

University of Miami

The University of Miami School of Medicine (UMSM) was established in 1952. Because it was the first medical school in Florida to receive accreditation, the state legislature made a commitment to provide substantial financial support, continuing through the present time. Even though UMSM is an independent institution, therefore, its recruiting focus is primarily on Florida residents. Of 128 new first-year students in 1990-91, 127 were residents of Florida.

In 1990-91, UMSM led all medical schools in the region in the percentage of Hispanics enrolled, with 15.7 percent overall and 19.5 percent among new first-year students. In addition, its 7.1 percent enrollment of blacks led all other Florida medical schools. One of every four new first-year students enrolled at UMSM in 1990-91 was either black or Hispanic, the highest aggregate minority student enrollment in the region except for Meharry and Morehouse.

Since the late 1970s, UMSM's minority recruitment efforts have included a seven-week summer Minority Students Health Careers Motivation Program for undergraduate pre-med students. Considerable effort is made to recruit applicants from the University of Miami itself, as well as other Miami-area institutions. Blacks are the only group actively recruited from out of state, and recruiting visits are made to a number of predominantly black colleges and universities in Florida and throughout the South. Numbers of out-of-state minority students actually enrolled are quite low, however.

In reviewing applicants, consideration is given to characteristics that include community involvement, leadership qualities, research involvement, and motivation for seeking a career in medicine, in addition to GPAs and MCAT scores. Any black applicant with a 3.0 GPA and a composite MCAT of 35 is automatically invited for an interview. (Florida residents who are not minorities must have a GPA of 3.3 and an MCAT of 54 to receive an automatic interview.) Applicants who do not meet these standards may be invited for an interview on the basis of other factors. Approximately one-third of UMSM's admissions officers are black or Hispanic.

Special efforts are made to enroll black applicants who are offered admission. All black students are offered an annual scholarship equal to tuition for the duration of their matriculation; these scholarships are available only to black students. UMSM's experience has been that Hispanic applicants typically want to attend a school close to home. Since a high percentage of Hispanic applicants are from South Florida, little special effort is required to enroll those who have been accepted.

UMSM does not offer any pre-matriculation program at the present time, though the administration believes this would be helpful to many students. Tutorial services are available for as long as they are needed, and students may repeat a year, if necessary. UMSM's retention of minority students has been extremely high. Of 40 Hispanic and 15 black students who enrolled as freshmen during 1985-86 and 1986-87, all except one black student graduated within five years.

The Office of Minority Affairs is the focal point for support for minority students at UMSM. In addition, the SNMA chapter is quite active, and minority physicians and other health professionals in the Miami area take an active role in providing support and serving as role models for students. The associate dean for minority affairs feels that UMSM offers a non-hostile, friendly environment for students, and that the medical school administration is genuinely committed to recruiting and supporting minority students. UMSM also has significant numbers of minority role models on its faculty--118 Hispanics, 22 blacks, and one native American.

Morehouse School of Medicine

Morehouse School of Medicine, established by Atlanta's historically black Morehouse College, enrolled its first students in a two-year program in 1978 and graduated its first M.D. class in 1985. Its primary purpose is to increase the number of black and minority primary care physicians and to address the health priorities of the underserved. Although it is an independent institution, Morehouse receives substantial financial support from the state of Georgia. In 1990-91, 21 of 33 new first-year students were Georgia residents. Morehouse also has a capitation agreement with the state of New Jersey to accept between two and four New Jersey residents each year. Morehouse had the highest percentage of black students in the region in 1990-91, 82 percent; 87 percent of new first-year students were black.

Morehouse had a total of 1,418 applicants for 33 positions in the 1990-91 class, approximately half were blacks. However, there were only 247 applications from Georgia residents, 90 of them black,. Nationwide, the average number of black medical school applicants from Georgia each year is only about 100. As a result, most recruiting is directed at identifying potential students from Georgia and, on a more limited basis, from New Jersey. A number of students who have completed their junior year of college, as well as students who have completed baccalaureate programs but have not met all the requirements for entry to medical school, are invited to participate with newly admitted students in a summer workshop. Any of these students who do well are accepted for the following year. There are also programs designed to reach high schools and elementary schools with efforts to strengthen and increase the applicant pool.

Morehouse School of Medicine has not found MCAT scores to be good predictors of student performance except at high levels. Most applicants offered admission have MCAT scores averaging between 5 and 7. Morehouse has found that many students who struggle with the basic science curriculum excel in the clinical phase of their education. The school feels that success as a medical student requires high motivation, the ability to cope with a stressful environment, perseverance, and reasonable intelligence.

All new students are required to participate in the five-week summer prematriculation program, which focuses on study skills and time management. Students found to have severe deficiencies are required to enter a decelerated three-year basic science curriculum. Others with less severe problems are offered an opportunity to join this program, a choice which must be made by the conclusion of the first set of exams during the regular semester. The three-year program also is available for students who have non-academic problems that make it difficult to pursue the normal curriculum.

A wide variety of counseling and tutoring services are available to all students. Central to this effort are faculty/student support groups composed of two faculty members and eight first-year students. The support groups help build a sense of camaraderie and provide students with professional role models. As is the case with many medical schools, Morehouse often finds that students have difficulty applying basic science principles to clinical problems. To address this problem, they are seeking ways to facilitate interaction between upper- and lower-class students and to present the basic science curriculum in a clinical problem-based context.

Morehouse requires students to pass Part I of the NBME for advancement and Part II for graduation. Most students who have problems are held up at Part I, and more than half require more than four years to graduate. A newly instituted policy requires students to graduate within six years.

Morehouse attempts to deal with students' financial problems through several different programs. Approximately 70 students per year receive direct grants based on need; a student with no potential family support receives about $6,000. In addition, there are several merit scholarships for continuing students that are not based on financial need. Three entering merit scholarships pay full tuition for four years. In spite of these programs, the average total indebtedness of Morehouse graduates is currently $56,000.

The extensive personal counseling services at Morehouse focus on helping students to have a realistic view of their abilities and take responsibility for their own success or failure.

University of North Carolina

The *University of North Carolina at Chapel Hill School of Medicine* (UNCSM) has been a leader in enrollment of black students in the South for decades. Its first black student enrolled in 1956, a dozen years before integration of the university as a whole. Its 6.6 percent black students in 1971-72 and 13 percent in 1979-80 were second only to Meharry among all medical schools in the region in those years. In 1990-91, UNCSM's 11.7 percent enrollment of black students ranked third among public schools, less than one percentage point behind East Carolina and East Tennessee, and it enrolled a larger number of new black first-year students (20) in 1990 than any SREB school except Meharry and Morehouse.

UNCSM is a strongly research-oriented medical school; in 1989, it ranked eighth among public medical schools in the U.S. in research funding from the National Institutes of Health. As the only public medical school in the state in the late 1960s, however, UNCSM also recognized that part of its mission was to provide educational opportunities and quality health care to rural, indigent, and minority North Carolinians. A commitment to accomplishing that mission has characterized the medical school's leadership ever since. Race is never overtly mentioned in any of the school's activities aimed at such students, and many white students as well as minorities, benefit.

In the late 1960s, UNCSM established a nine-week summer skills enhancement and assessment program for college students interested in medical careers. Originally funded by a federal HCOP grant, the Medical Education Development (MED) program has been supported by institutional funds since 1974. More than 1,000 students, including 75-80 percent of USCSM's own minority graduates, have gone through the program since then; 90 percent of them have gone on to careers in biomedical fields. Recruiting includes workshops for premedical advisors and regular visits to North Carolina colleges with high enrollments of minority students. In addition, UNCSM attempts to develop and maintain relationships with community leaders in North Carolina who may be able to aid in recruiting.

Perhaps the single most important factor in UNCSM's success at enrolling minority students is a philosophy that all students need not meet the same criteria for admission so long as they all meet the same standards for graduation. This premise not only allows for flexibility in the admissions process to achieve diversity, but also justifies the development of extensive academic support services in the pursuit of excellence. UNCSM has no fixed minimum admissions requirements; instead, the school uses a complicated formula, now computerized, including a wide range of academic and personal factors to screen applicants. (Race is not one of the factors considered.) UNCSM has found that MCAT scores have little value as predictors of performance except at the extreme low end, generally 5 or below, at which point most students will encounter serious academic difficulties. Virtually all applicants from North Carolina are invited for interviews.

The goal of UNCSM is for every student who enrolls to graduate as a highly qualified physician, and a comprehensive range of support services has been developed to achieve that goal. In 1984, an advanced MED II program was added for minority students who have been accepted to the school and who previously participated in the MED program. Accepted minority students who have not been through the MED program are invited to participate in MED during the summer prior to matriculation. During the summer, in addition to the regular academic work in the MED and MED II programs, accepted students are invited to attend a series of dinners at the home of the assistant dean for student affairs, where they are introduced to the dean and associate deans, the financial aid officer, minority faculty, and advanced medical students.

Once the regular semester begins, students have access to tutoring through the Academic Assistance Program (AAP), which is available to all students, but with a special focus on minorities. A Learning and Assessment Lab provides both group workshops and one-to-one assistance. The assistant dean for academic affairs monitors the performance of all students and intervenes to offer and coordinate support services at any time a student demonstrates academic difficulty. A decelerated curriculum is offered extending the first-year curriculum over two years. Students may voluntarily enter the decelerated curriculum if they are perceived to be at risk because of academic or personal difficulties. Students who experience significant

difficulty may be required to enter the decelerated curriculum. In general, UNCSM students are discouraged from viewing themselves as competing with each other and encouraged instead to cooperate. Grades are reported anonymously, and passage of Part I of the NBME is not a requirement for advancement.

In addition to these formal academic support programs, UNCSM offers a variety of special activities to provide academic and personal support to minority students. There are numerous social functions designed to promote interaction among minority faculty and students at all levels. Two annual visiting professor and lecturer programs emphasize minority role models. There is an active SNMA chapter, as well as strong minority participation in the alumni association, which is very active in providing support to students.

Approximately half of the 83 minority students enrolled at UNCSM in 1990-91 were receiving scholarship support for 80 percent or more of tuition. Of the 20 Board of Governors Medical Scholars in the 1990-91 entering class, 11 enrolled at UNCSM, including eight black recipients.

Oklahoma State University

The *Oklahoma State University College of Osteopathic Medicine* (OSUCOM) was founded in 1972, with a primary mission to train physicians who would serve rural areas and indigent populations. Originally a free-standing public institution, the college became a unit of the Oklahoma State University system in 1988. In 1990-91, the school ranked number one in the region in percentage enrollment of native Americans, with both total (5.9 percent) and new first-year (9.6 percent) enrollment exceeding the state's 5.7 percent native American population. In addition, OSUCOM had 4.8 percent black students, and 3.3 percent Hispanic students, which compared relatively well to those minorities' share of the state population. The school's president, who will retire in 1991, says that their success with minority students has been less a result of any major initiatives than of commitment to the school's mission.

OSUCOM's recruiting efforts are based on a "pipeline" philosophy. They begin by trying to inform Oklahoma high school students about health careers and the importance of academic achievement. They make recruiting visits to all junior colleges in the state and offer programs for premedical advisors at the four-year colleges. Special attention is paid to the state's two predominantly black junior colleges and one native American university. Alumni also are encouraged to help identify potential applicants. Premedical students from feeder schools are brought to Tulsa annually for recruiting visits.

OSUCOM benefits in its minority recruiting from its location in Tulsa, the area of the state with the heaviest concentration of native Americans. (All native American students enrolled in 1990-91 were Oklahoma residents.) There are 34 federally recognized tribes in Oklahoma, and recruiters maintain regular contact with many tribal organizations. OSUCOM officials note that the backgrounds of native American students vary widely, from those with strong minority identity to others who are well integrated into the Oklahoma mainstream. There is often little correlation between proportion of native American blood and cultural identity. As a result, it sometimes can be difficult to be sure who is truly a member of a disadvantaged native American minority. (Some estimates put the actual percentage of the state's population with significant native American blood at more than three times the official census figures.)

Until 1991, the only formal admissions standard at OSUCOM was a 2.5 minimum GPA set by the State Regents for Higher Education. Admissions decisions were based on evaluation of each student's overall potential to become a good osteopathic physician, with no attempt to rank applicants by quantitative factors. Effective with the 1991-92 entering class, the Regents instituted a minimum 3.0 GPA and average 7 MCAT score for admission to both of the state's medical schools, although there is a provision for the standards to be waived for a limited number of in-state applicants. In the past, OSUCOM has tried to make it clear that all applicants are judged by the same broad criteria, and that no one receives special treatment. There is concern that the waiver will need to be used primarily for minority applicants because of their lower average test scores, and that this may undermine the even-handed approach.

OSUCOM currently does not offer either a summer program for premedical students or a prematriculation program for admitted students, although the assistant dean of students, who also directs the

Minority Affairs Office, feels such programs would be desirable. Most student support activities function on a personalized, almost ad hoc basis. The Office of Minority Affairs is the focal point for meeting the needs of minority students, but its most important role may be as a symbol of the school's recognition that minorities sometimes have special problems. The small size of both the student body and the faculty (42 full-time, including one black and one native American) contribute to a close-knit, mutually supportive community. A big brother/big sister program helps new students get oriented, and the SNMA chapter includes members of all minority groups. A significant number of students accepted at OSUCOM are older than the typical medical student; the average age is 29. The added maturity and varied experiences such students bring may account in part for the effectiveness of individualized support services.

OSUCOM's approach to students who have serious academic problems is also quite flexible. Some students repeat an entire academic year, but it is also possible to repeat up to 10 hours during the summer, and some courses may be remediated without full repetition. Decisions about how to deal with problems are made at the end of each semester. Most students graduate within five years, but others may take longer if necessary.

The state provides a limited amount of scholarship support for minority students. Several native American tribal organizations have scholarship programs and also provide assistance to students in finding other sources of aid.

University of Oklahoma

The *University of Oklahoma Health Sciences Center College of Medicine* (OUCM) has improved its minority student enrollment significantly in the past two decades, with the greatest gains coming in the 1980s. In 1971-72, the school had no native American students and less than one percent of students were black. By 1979-80, those figures had improved to only 2.4 and 1.4 percent, respectively. By 1990-91, however, both percentages had more than doubled, to 5 percent native American and 4.6 percent black.

OUCM faculty and staff attribute the school's success with minority students to consistent and committed leadership since the late 1970s. An important component of this commitment is a belief that quality and diversity are not mutually exclusive. At the same time that it pursues academic excellence and increased research funding, the school has also established an objective of doubling its enrollment of native American students by the year 2000. It is probably not coincidental that the current dean previously was associated at the executive level with two of the other high-minority medical schools identified in this report. Interestingly, one of those schools is in a state with a minority population that is predominantly black, the other Hispanic.

OUCM takes a more traditional approach to evaluation of applicants than most of the other high-minority schools in the region. School officials have found the MCAT to be a good predictor of success in the first two years; they do not believe there is room for much remediation in the curriculum; and they do not want to admit students who cannot succeed. While there appears to be more flexibility than this rhetoric might suggest, it may partially explain why the school has had to look outside Oklahoma for a large proportion of its black and Hispanic students. In 1990-91, 36 percent of all black students enrolled and 86 percent of Hispanics were from out-of-state, compared to only 11 percent of native Americans and 8 percent of all other students.

Given the difficulty of finding black and Hispanic applicants from Oklahoma who meet their minimum admissions standards, it is not surprising that OUCM recruiting efforts have reached out to schools in surrounding states that traditionally have produced strong minority graduates. Implementation of the new admissions standards required by the State Regents for Higher Education may make this situation even more difficult; preliminary data on applicants for 1991-92 suggest that this will be true.

The Health Careers Pathway Program, which is funded by a federal HCOP grant, is an attempt to address the academic deficiencies of minority applicants who are Oklahoma residents. This program includes an eight-week summer enrichment program for minority college students and a deferred admissions program

that allows a select group of students previously denied admission a chance to improve their skills and reapply the next year. A preadmission workshop for admitted students is also funded through the HCOP grant, and a larger summer prematriculation workshop is planned. Exams are scheduled early in the first semester of the first year to identify students who may need special help. Students believed to be at significant academic risk are offered a five-year option prior to the beginning of the first semester; others who enter the regular four-year program may be allowed to repeat the first year as well.

OUCM has both an active SNMA chapter and a Native American Medical Students Association. The Minority Affairs Office is a focal point for support services, with individual minority staff members assigned to coordinate both recruiting and counseling activities for native American and black students. OUCM has a number of minority faculty and administrators in positions to serve as role models, including one of the health science center vice presidents. There are nine black, eight Hispanic, and four native American full-time faculty members, and both the state and the health science center provide financial rewards to administrators for successfully recruiting minority faculty. The health science center has received more awards than any other public institution of higher education through the Regents' Minority Faculty Incentive Program.

OUCM students are eligible for the same state and tribal financial aid programs as those at OSUCOM. A majority of the medical schools' minority students receive at least an 80 percent tuition waiver.

Southeastern College of Osteopathic Medicine

Southeastern University of the Health Sciences, College of Osteopathic Medicine, (SECOM) is an independent institution and the newest osteopathic medical school in the country. Located in North Miami Beach, Florida, it enrolled its first class in 1981. In 1990-91, SECOM ranked second among independent medical schools, and third among all schools in the region in enrollment of Hispanic students, at 11.3 percent.

SECOM's self-identified mission is to produce general practice D.O.s to serve all segments of the population, including those traditionally disadvantaged and underserved. All students take a required 12-hour course in minority medicine, and all are required to do both rural and geriatric clinical rotations. SECOM does not have a designated minority affairs officer because, in the words of the executive vice president, "Everybody here is a minority affairs officer." In fact, all faculty and staff interviewed demonstrate a high level of sensitivity to the problems faced by minority students.

SECOM makes a concerted effort to recruit minority students. They have found that Hispanic students often have limited knowledge of osteopathy because the profession exists only in the United States. Once Hispanic students are informed about the nature of osteopathy, however, they frequently find it appealing because its emphasis on skeletal function and manipulation is consistent with the "laying on of hands" common in Hispanic folk culture. Black students, on the other hand, are sometimes concerned about the implications of adding membership in a "minority profession" to their status as a racial minority.

The State of Florida provides capitation funding to SECOM for up to 80 students from Florida in each class of 115. As a result, the most concerted recruiting efforts are within the state. SECOM is a partner with the University of Miami in a federally funded Area Health Education Center (AHEC) program that is a primary in-state recruiting tool. Through the AHEC, SECOM offers an annual Summer Health Careers Camp and follow-up mentor program for high school students from underserved areas. The AHEC also facilitates recruiting relationships with colleges in SECOM's designated service area. In the Miami area, radio ads featuring Cuban-American graduates have been used to reach potential Hispanic applicants. Special recruiting efforts also are directed at Mississippi, which supported a total of eight students at SECOM in 1990-91 through the SREB student contract program.

SECOM has no specified minimum GPA or MCAT score for admission. The associate dean for basic sciences views the MCAT as measuring any applicant's *minimum* ability on a bad day. Nevertheless, school officials believe that combined GPA and average MCAT can predict fairly accurately which applicants are

most at risk for academic problems. They try to identify those at-risk applicants they feel are most likely to make good physicians and then admit them as approximately one-third of each class to accomplish their goal of serving the disadvantaged. Students believed to be most at risk may be accepted directly into a five-year curriculum, while others may choose that option voluntarily. Many students in the five-year program are non-minority; a large number are also non-science majors. A few students have taken as long as seven years to graduate.

The philosophy at SECOM is that the first responsibility of faculty and staff is to the students. By order of the university's president and co-founder, offices do not have doors and students are not required to have appointments to meet with faculty. At any given time, between 15 and 20 percent of students are taking advantage of academic counseling services. New students are divided into peer groups of 11 or 12 students, each with a faculty advisor, an upper-class student advisor, and a peer advisor from the class one year ahead. Students say these support groups are extremely helpful. An anonymous personal counseling service is available to all students on an "as needed" basis. SECOM has an active Student Osteopathic Medical Association group, but no formal organizations of minority students. One student described the school as "a real melting pot."

Scholarship aid at SECOM is relatively limited. The school provides two full four-year minority scholarships in each class. There is also a fellowship program in osteopathic principles and practice that begins following completion of the second year and extends the curriculum an extra year. Tuition is waived for students accepted into this program; four or five fellowships are offered each year.

University of South Florida

The University of South Florida College of Medicine (USFCM) ranked third among the regions' public schools in the enrollment of Hispanic students in 1990-91, with 10.1 percent. Most of these students are not members of the two Hispanic groups considered underrepresented by the AAMC--mainland Puerto Ricans and Mexican Americans. However, USFCM rarely offers admission to applicants who are not residents of Florida, and its Hispanic students reflect the pool of applicants from Florida. Among applicants of Hispanic origin for the 1990 entering class, 83 percent were members of "other Hispanic" groups.

USFCM places special emphasis on recruitment of all minority students, but blacks receive particular attention because of the relatively small numbers of black applicants who meet minimum admission standards. In general, a minimum GPA of 3.0 and a score of 8 in each MCAT category are required for consideration. The operating policy for the admissions committee allows discretion in the application of the standards, however. In practice, this most often affects black applicants, and average GPAs and MCAT scores for enrolled black students are below the minimum. Minority applications are reviewed by a special committee of minority faculty, and the recommendations of this committee play an important role in admissions decisions. The admissions committee's chairman is Hispanic, and several members are black. Although USFCM's 4 percent black students in 1990-91 was lower than the other three Florida medical schools, it represented a significant improvement over previous years; 7.3 percent of new first-year students were black.

USFCM provides support programs to all students who experience test-taking problems, and each minority student is assigned a minority counselor. Beyond that, however, there is little provision for remediation of students who find themselves inadequately prepared. There is no prematriculation program, and it has been rare for any student to repeat an academic year. Graduation rates for minority students entering in the mid-1980s were very high, but only one or two black students were admitted during those years.

The associate dean of student affairs came to USFCM recently from East Tennessee State University medical school. His experience in dealing with minority applicants there and his commitment to increasing enrollment of minority students undoubtedly have played a role in improving admissions of black students. This increase in enrollment of minority students may mean that more minority students will encounter academic difficulties, but his experience at ETSU also suggests that he will be in a good position to develop

programs to assist those students. An SNMA chapter was organized during the 1989-90 academic year, and a mentoring program has been established linking black students with black faculty members and practitioners in the community. All black students enrolled during 1990-91 received full tuition scholarships, which were not available to any other students.

Texas A&M University

The *Texas A&M University College of Medicine* (TAMUCM), like East Tennessee's Quillen Medical College, was established during the 1970s with support from the United States Veterans' Administration. In 1990-91, TAMUCM was second among public schools both in the region and in Texas in the enrollment of Hispanic students, with 10.4 percent. That figure is higher than the percentage of Hispanics in the population of any other SREB state, but less than half the 23 percent of all Texans who are Hispanic. Most Hispanics in Texas are of Mexican-American background, and this is reflected in TAMUCM's applicant pool--73 percent of Hispanic applicants and 91 percent of those offered admission in 1990-91 were Mexican-American.

TAMUCM is doing less well with black students--3.1 percent compared to Texas' 11.8 percent black population. Enrollment of blacks has declined from almost 5 percent in 1985-86, and, with only one new black student (2.1 percent of the first-year class) in 1990-91, it appears that it may decline still further. Nevertheless, TAMUCM was third among the eight Texas medical schools in the percentage of black students in 1990-91.

TAMUCM's average class size of 48 is half that of any other Texas medical school. Comments of current minority students suggest that the individualized attention this small size allows may be the school's biggest recruiting strength. A number of efforts have been undertaken in recent years to increase numbers of minority applicants. Two programs are aimed at high school students, including a High School Summer Enrichment Program, funded by the university, and a Minority High School Student Research Apprentice Program, funded by the National Institutes of Health. At the college level, TAMUCM participates with four other Texas medical schools in a recruiting consortium that makes coordinated presentations to undergraduate pre-medical clubs on campuses with high minority enrollments. TAMUCM's own HCOP program, called Bridge to Medicine, is a six-week summer program for minority students interested in medical careers. The Bridge to Medicine program has been effective at improving participant's test scores and getting them into some medical school. Only four of 70 students completing the program between 1985 and 1989 were accepted at TAMUCM itself, however.

The interview plays a very important role in admissions decisions. Each student invited for an interview has one-on-one, 30-minute meetings with three different interviewers. Grades and MCAT scores are used quite flexibly in assessing minority applicants. Overall, students offered admission have average GPAs of about 3.4 and MCAT scores averaging 8.4. Hispanic students have average GPAs of 3.3 and MCAT scores of 7.8. Accepted black students have similar grades, averaging 3.2, but their average MCAT scores drop to 5.6. Students have been admitted with MCAT averages as low as 4, and have completed the program without major difficulties.

TAMUCM has no black faculty, and its one Hispanic faculty member is leaving the school. As a result, the Hispanic director of the Bridge to Medicine Program is extremely important as a source of support for minority students. There is also a big brother/big sister program that matches first- and second-year minority students. Most of TAMUCM's clinical training takes place at a site 70 miles from the basic science campus, so there is relatively little opportunity for interaction between upper and lower class students. This means that the approximately 100 first- and second-year students tend to be a tightly knit group. There is a minority students' association, rather than a specific SNMA chapter, and this group has recently begun to include a number of non-minority members.

Most of the academic support is through informal channels, with little that is directed specifically at minority students. Students say that faculty are readily accessible and generally willing to provide whatever extra help may be needed. The director of the Bridge to Medicine Program feels that minority students

would benefit from more structured support services, however. He feels that lack of structure in their previous educational experience is one of the main reasons that they often have not developed the study skills needed to succeed in medical school. The dean is supportive of efforts to develop more formalized programs. TAMUCM is flexible about allowing students to repeat as necessary. In one recent year, 10 percent of new first-year students repeated, but most of these were non-minority.

Financial aid is relatively limited. Typically, a minority student may receive scholarship support for about 25 percent of tuition and fees, with the rest made up in loans.

The University of Texas Medical Branch

The University of Texas Medical Branch at Galveston School of Medicine (UTMB), the oldest medical school in Texas, dating to 1881, has a long history of providing at least limited opportunities to minorities. The first Mexican-American graduated in 1921; the first black, in 1954. In 1990-91, UTMB's 8.7 percent Hispanic students ranked fifth among public schools in the region and its 1 percent native American students fourth. Although its 4.7 percent enrollment of black students was only 24th among all schools in the region, it was first among the eight Texas schools. In 1971-72, it had ranked last in enrollment of blacks among the six Texas medical schools in operation at that time. Unfortunately, new first-year enrollment of both blacks and Hispanics in 1990-91 was down from previous years.

The key to UTMB's success in minority recruitment and retention is leadership. The current dean has made equal opportunity a high personal priority, and his persistence has made it a priority for the school as a whole. Even before becoming dean, as a faculty member in the 1970s, he called attention to the fact that UTMB had a unique resource in its relatively large number of minority alumni compared to other Texas schools. This resulted in appointment of a Minority Affairs Alumni Advisory Committee, which was highly critical of the school's performance in this area. As dean since 1977, he has sought to educate himself about minority cultures and race relations, and not only has implemented changes in admissions procedures and student support programs, but also has tried to change individual attitudes to create an environment hospitable to minority students.

UTMB has a federal HCOP grant and participates in the five-school minority recruitment consortium, which includes Texas A&M. However, the assistant dean of student affairs and director of admissions, a black Meharry graduate, believes that "recruitment is not what you go out and do, but what kind of place you are." His perception is reinforced by students, who say that their experiences in visiting the campus and talking with students already enrolled convinced them that UTMB was a good place for minority students.

All applications for admission to any of the four University of Texas Medical Schools must be submitted through a centralized University of Texas System Medical and Dental Application Center, and most applicants apply to all four schools. Each school's admissions process is individualized from that point on. At UTMB, the process is flexible and designed to provide ample opportunity for minority applicants to receive consideration. At certain GPA and MCAT score levels, applicants are automatically invited for an interview, but those levels vary for different racial and ethnic groups. All applications are reviewed by two members of the admissions committee, and any applicant who does not meet the automatic criteria can be invited for an interview at the request of one of the reviewers. As a safety valve, applications from minorities who do not get an invitation are reviewed again by a minority subcommittee that can override the recommendation of the initial reviewers. As a result of this flexible approach, applicants with MCAT scores averaging as low as 5 may be interviewed and admitted.

For minority students who do not receive offers of admission but who are seen as having good potential, UTMB recently initiated a three-part, post-baccalaureate program. This includes a six-week summer assessment program on the UTMB campus, followed by nine months of upper-level bioscience coursework at an undergraduate school, and concluding with another six-week summer prematriculation program. Students who complete this program successfully are admitted automatically.

All entering students are evaluated to identify areas of weakness, and academic support programs are very well organized. There is a peer tutorial program for individual courses, but the primary emphasis is on study skills and behavior modification. All didactic courses have been carefully analyzed, and students are helped to understand what is required to pass. The highly systematic approach is based on efficient time management. UTMB also offers an Alternative Basic Science Track, a five-year program that can be entered at any time prior to completion of the first semester. The goal is to give students who are seen as being at high risk an opportunity to avoid the emotional trauma of failure. This program has been found effective not only for minority students, but also for older students who are returning to school after several years in the workforce. UTMB is also quite flexible in allowing students who do not choose the alternate program to repeat if necessary.

The students are a more important source of support at UTMB than at any of the other schools visited. There are active minority student organizations, and there is also an extremely strong sense of camaraderie and class loyalty among all students. This is manifested in a support network between stronger and weaker students that seems to operate outside the school's formal student support programs, and to take different forms, depending upon the personality of each class. It functions across racial and ethnic lines, but does not ignore them. The only drawback to this strong sense of class self-sufficiency is that it may sometimes discourage students from stepping outside it to take advantage of support services offered by the administration. Ideally, the two networks could be made more mutually supportive.

The University of Texas Medical School at San Antonio

The University of Texas Health Science Center at San Antonio Medical School (UTHSC-SA) leads all public medical schools in SREB states in the enrollment of Hispanics and, at 13.2 percent in 1990-91, was second only to the University of Miami overall. The percentage of Hispanics enrolled has been rising steadily in recent years, with new first-year Hispanic students up to 16.3 percent. Black students made up only 2.3 percent of 1990-91 enrollment, and only 1.5 percent of new first-year enrollment. This distribution of minority students probably results in part from the fact that San Antonio, a city of one million, is predominantly Mexican-American and is in an area of the state with a relatively small black population.

UTHSC-SA's success in enrolling Hispanic students has been the product of a concerted effort by minority faculty and staff since the school opened in 1970. This group, some of whom have been at the school for most of its existence, has kept minority issues before the administration and has gradually worn down resistance. The relatively large numbers of minority faculty (10 percent of full-time faculty are Hispanic, black, or native American) have combined with a large and active local minority community to create an environment that is supportive of minority students without need for much effort or even awareness on the part of the majority medical school community.

UTHSC-SA has a large number of formal programs aimed at recruitment of minorities. There is a heavy emphasis on linkages with public school systems in the San Antonio and South Texas areas to increase the potential Hispanic applicant pool, including cooperative programs with the Hispanic Association of Colleges and Universities and the Mexican-American Physicians Association. UTHSC-SA also is a member of the medical school consortium that coordinates recruiting at Texas universities, and it supports summer programs to improve student test scores at two universities with large Hispanic enrollments. Many of these activities are funded by a federal HCOP grant, and they are administered by an Office of Special Programs that serves the entire health science center.

At UTHSC-SA, minority applications are reviewed by the associate dean for student affairs, who is black. A variety of subjective factors are considered in addition to grades and MCAT scores. (The associate dean says that UTHSC-SA has found that the credentials of minority applicants have improved over time.) At least one, preferably both, of each minority applicant's two interviews is with a minority interviewer. On the basis of those interviews, the associate dean prepares a list of recommended minority candidates for the admissions committee, which generally adheres closely to them. Every effort is made to let minority students know as early as possible that they have been accepted, because they often need extra time to get their financial affairs in order.

The large minority community at the health science center--almost 500 students across five schools--provides the focal point for both academic and social support. There are chapters of both the SNMA and the Texas Association of Mexican-American Medical Students, as well as a minority student council. Through the HCOP program, the Office of Special Programs conducts orientation workshops for new minority students, and provides tutoring and counseling for students in academic difficulty. Regular newsletters keep students up to date on minority student activities. There is even a special Minority Students' Graduation Banquet. The associate dean for student affairs says that the primary focus of academic support services is on helping minority students to "adapt their culturally unique learning styles to the medical curriculum." He believes that this approach is validated by the fact that most students who repeat the first year--about 10 percent of each entering class--do quite well the second time around.

The University of Texas Southwestern Medical School

The Southwestern Medical School of the University of Texas Southwestern Medical Center at Dallas (UTSW) has made substantial strides in the past decade toward becoming a nationally renowned research medical school. At the same time, it has done relatively well in enrolling minority students. In 1990-91, it ranked sixth among public schools in the region in enrollment of Hispanic students, at 8.6 percent. While its 3.8 percent black enrollment did not make it one of the regional leaders, it was second among the eight Texas medical schools. Unfortunately, new first-year enrollment of Hispanics was down significantly in 1990-91, while that of new black students was relatively stable.

The administration of UTSW recognized several decades ago that, as a state-supported medical school, its mission must include training physicians to serve all Texans, including minorities. That mission is accepted by the medical school community virtually without question, and its focus on the end-product rather than the admissions process has been critical to UTSW's success with minority students. It has meant that the school has always been relatively flexible in evaluating minority applicants. It also means that UTSW probably provides the most generally supportive environment for students of any of the M.D. schools visited. Although this support is not aimed specifically at minority students, it is extremely beneficial for them.

UTSW's most effective recruiting tools are its strong academic reputation--including three Nobel Prize winners during the 1980s--and its students. Working against it is an unearned reputation for cutthroat competition among students that could discourage some potential applicants. Essentially, UTSW relies on its academic reputation to get qualified students to apply and then on its students to let applicants know what a nurturing and supportive place it is to go to school. While this works for many applicants, there are others who never get past the cutthroat reputation. At each of the three other Texas schools visited, at least one minority student commented that they had never seriously considered UTSW for that reason.

UTSW's academic reputation gives it an advantage over other Texas public medical schools in attracting the most highly qualified students, including minorities. This fact, combined with flexibility in applying admission standards, has made it almost painless for UTSW to admit relatively high numbers of minority applicants. Overall, entering students have an average GPA of 3.6 and an average MCAT score of 10, both quite high in comparison to the overall applicant pool. The rule of thumb used to determine whether an applicant will be considered is that a non-minority candidate should have a minimum average MCAT of at least 8.3; an Hispanic, 7.5; and a black, 6.7. Even though these figures reflect flexibility in the application of quantitative standards, they have the effect of excluding from consideration a higher proportion of the black applicant pool than of the other groups. In fact, UTSW interviews a significantly smaller percentage of all applicants than the other University of Texas schools visited. Like UTHSC-SA, however, UTSW officials feel that the credentials of minority applicants have been improving.

UTSW is very solicitous of applicants. All interviews are done on a Saturday so that they do not interfere with college courses. Careful attention is given to making sure that minority applicants are not isolated in a non-minority group. All admissions decisions are made by mid-January, relatively early compared to most other schools.

Once students are admitted to UTSW, everyone on the campus works hard to get them through the program. There is no summer prematriculation program, but the school has an implied open door policy that means all faculty and staff are available to help students on an "as needed" basis. That help can apply to virtually any type of problem, from difficulties with a particular academic assignment to financial difficulties, or even a car that won't start. Every effort is made to minimize outside distractions that might have a negative impact on a student's academic achievement. Student organizations play a very important role in providing support and in planning social activities, and minority student organizations are just one component of this overall picture. One administrator said that students "have to work hard to flunk out," and, in fact, attrition is well under one student per year. Very few students--usually two or three per year--are required to repeat, though those who do tend to be minorities.

UTSW has been able to accomplish its goal of producing minority physicians with very few formal programs aimed specifically at minorities. Even though admissions standards have been applied flexibly to achieve this, few minority students have been accepted who could be regarded as being at serious academic risk. UTSW should be in an excellent position to reach more minority students with strong potential to be good physicians. As with Johns Hopkins, UTSW provides the kind of nurturing, supportive environment that is most effective in helping all students to achieve their full potential.

The 16 medical schools profiled here certainly do not exhaust the range of models for enrolling and graduating minority students. Perhaps the most important conclusion that can be drawn from their varied experiences is that there is no perfect model that can work for every school. Any institution with a sincere commitment to increasing its percentage of minority graduates and a willingness to honestly evaluate its own strengths and weaknesses can build its own unique model for success. It is to be hoped that the experiences described in this report can help to encourage more medical schools to dare to change, and perhaps make the process of change less painful.

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Appendix A

HISTORIC TRENDS IN ENROLLMENT OF BLACK AND NATIVE AMERICAN MEDICAL STUDENTS SINCE 1972

and

RANKINGS OF MEDICAL SCHOOLS IN SREB STATES BY PERCENTAGE ENROLLMENTS OF MINORITY STUDENTS, 1990-91

TABLE A-1

Historic Trends in Enrollment of Black Students in Medical Schools in SREB States, 1971-72 to 1990-91

MEDICAL SCHOOL	1971-72			1979-80			1985-86			1990-91		
	TOTAL	BLACK	PERCENT	TOTAL	BLACK	PERCENT	TOTAL	BLACK	PERCENT	TOTAL	BLACK	PERCENT
All SREB Schools	12,279	576	4.7	19,967	1,172	5.9	21,414	1,266	5.9	20,740	1,400	6.8
All U.S. Schools *	43,399	2,056	4.7	68,766	3,682	5.4	73,193	3,975	5.4	71,955	4,458	6.2
Percent in SREB States	28.3	28.0		29.0	31.8		29.3	31.8		28.8	31.4	
U of Alabama	410	12	2.9	690	33	4.8	617	29	4.7	672	24	3.6
U of South Alabama	--	--	--	264	6	2.3	266	9	3.4	250	20	8.0
U of Arkansas	417	7	1.7	538	34	6.3	534	34	6.4	538	39	7.2
Southeastern Col of Ost Med	--	--	--	--	--	--	330	4	1.2	426	23	5.4
U of Florida	270	14	5.2	470	43	9.1	467	35	7.5	456	28	6.1
U of Miami	481	10	2.1	639	16	2.5	649	24	3.7	553	39	7.1
U of South Florida	24	0	0.0	289	3	1.0	378	7	1.9	377	15	4.0
Emory U	349	13	3.7	460	17	3.7	443	12	2.7	447	28	6.3
Medical Col of Georgia	499	22	4.4	740	23	3.1	727	33	4.5	724	47	6.5
Mercer U	--	--	--	--	--	--	93	4	4.3	164	12	7.3
Morehouse School of Med	--	--	--	--	--	--	133	104	78.2	147	120	81.6
U of Kentucky	361	6	1.7	437	7	1.6	377	14	3.7	354	7	2.0
U of Louisville	431	2	0.5	571	16	2.8	505	21	4.2	488	18	3.7
Louisiana St U-New Orleans	559	12	2.1	720	22	3.1	701	41	5.8	691	41	5.9
Louisiana St U-Shreveport	107	1	0.9	395	8	2.0	396	23	5.8	383	14	3.7
Tulane U	553	9	1.6	606	37	6.1	606	42	6.9	592	13	2.2
Johns Hopkins U	426	25	5.9	472	21	4.4	481	46	9.6	469	46	9.8
U of Maryland	565	23	4.1	720	48	6.7	627	45	7.2	595	58	9.7
U of Mississippi	365	8	2.2	600	30	5.0	486	26	5.3	389	30	7.7
Bowman Gray Sch of Med	292	8	2.7	428	25	5.8	429	14	3.3	437	27	6.2
Duke U	409	18	4.4	499	27	5.4	473	25	5.3	459	36	7.8
East Carolina U	--	--	--	105	13	12.4	271	34	12.5	289	35	12.1
U of N Carolina	364	24	6.6	644	84	13.0	641	73	11.4	643	75	11.7
Okl St U Col of Ost Med	--	--	--	243	4	1.6	331	12	3.6	273	13	4.8
Oral Roberts U **	--	--	--	47	0	0.0	187	2	1.1	--	--	--
U of Oklahoma	496	3	0.6	706	10	1.4	660	24	3.6	539	25	4.6
Medical U of S Carolina	490	9	1.8	655	19	2.9	629	11	1.7	548	21	3.8
U of S Carolina	--	--	--	96	2	2.1	233	9	3.9	256	9	3.5
E Tennessee State U	--	--	--	57	2	3.5	218	19	8.7	234	29	12.4
Meharry Medical Col	347	299	86.2	494	420	85.0	306	239	78.1	291	225	77.3
U of Tennessee	581	6	1.0	736	12	1.6	703	13	1.8	591	52	8.8
Vanderbilt U	274	1	0.4	401	14	3.5	411	7	1.7	379	8	2.1
Baylor Col of Medicine	466	6	1.3	657	27	4.1	671	17	2.5	651	15	2.3
Texas A&M U	--	--	--	96	1	1.0	183	9	4.9	193	6	3.1
Texas Col of Ost Med	--	--	--	312	4	1.3	382	8	2.1	372	4	1.1
Texas Tech U	--	--	--	224	5/	2.2	402	6	1.5	389	2	0.5
U of Texas-Houston	51	2	3.9	519	6	1.2	789	30	3.8	768	22	2.9
U of Texas-San Antonio	381	9	2.4	688	18	2.6	801	24	3.0	818	19	2.3
U of Texas Med Branch	655	4	0.6	796	22	2.8	792	31	3.9	768	36	4.7
U of Tx Southwstn Med Sch	446	6	1.3	831	24	2.9	803	20	2.5	791	30	3.8
Eastern Virginia Med Sch	--	--	--	249	14	5.6	294	22	7.5	368	14	3.8
Medical Col of Virginia	521	8	1.5	671	36	5.4	667	33	4.9	658	33	5.0
U of Virginia	391	7	1.8	550	14	2.5	554	22	4.0	558	35	6.3
Marshall U	--	--	--	80	0	0.0	190	2	1.1	192	0	0.0
WV Sch of Osteo Med	--	--	--	218	3	1.4	236	5	2.1	240	4	1.7
West Virginia U	298	2	0.7	354	2	0.6	342	2	0.6	320	3	0.9

* - 1971-72 U.S. Totals are for M.D. schools only.
** - Oral Roberts University Medical School closed during the 1989-90 academic year.

SOURCES: American Association of Colleges of Osteopathic Medicine; Association of American Medical Colleges; SREB Survey of Medical School Enrollments

TABLE A-2

Historic Trends in Enrollment of Native American Students in Medical Schools in SREB States With Greater Than 1 Percent Native American Population, 1971-72 to 1990-91

MEDICAL SCHOOL	1971-72 TOTAL	1971-72 NATIVE AMER	1971-72 PERCENT	1979-80 TOTAL	1979-80 NATIVE AMER	1979-80 PERCENT	1985-86 TOTAL	1985-86 NATIVE AMER	1985-86 PERCENT	1990-91 TOTAL	1990-91 NATIVE AMER	1990-91 PERCENT
All SREB Schools	12,279	5	0.1	19,967	59	0.3	21,414	101	0.5	20,740	97	0.5
All U.S. Schools *	43,399	35	0.0	68,766	235	0.3	73,193	281	0.4	71,955	292	0.4
Percent in SREB States	28.3	14.3		29.0	25.1		29.3	35.9		28.8	33.2	
Bowman Gray Sch of Med	292	0	0.0	428	6	1.4	429	2	0.5	437	0	0.0
Duke U	409	0	0.0	499	2	0.4	473	1	0.2	459	2	0.4
East Carolina U	--	--	--	105	1	1.0	271	0	0.0	289	7	2.4
U of N Carolina	364	0	0.0	644	5	0.8	641	8	1.2	643	5	0.8
Okl St U Col of Ost Med	--	--	--	243	7	2.9	331	17	5.1	273	16	5.9
Oral Roberts U **	--	--	--	47	0	0.0	187	1	0.5	--	--	--
U of Oklahoma	496	0	0.0	706	17	2.4	660	17	2.6	539	27	5.0

* - 1971-72 U.S. Totals are for M.D. schools only.
** - Oral Roberts University Medical School closed during the 1989-90 academic year.

SOURCES: American Association of Colleges of Osteopathic Medicine; Association of American Medical Colleges; SREB Survey of Medical School Enrollments

TABLE A-3

Ranking of Public Medical Schools in SREB States by Percentage of Black Students (all levels) and Newly Enrolled First-Year Black Students, 1990-91

	PUBLIC MEDICAL SCHOOL (N = 32)	TOTAL BLACK ENROLLMENT		NEW FIRST-YEAR BLACK ENROLLMENT		PERCENT BLACK POPULATION IN STATE (1985)
		NUMBER	PERCENT	NUMBER	PERCENT	
	All Public Medical Schools in SREB States	794	5.2	219	5.6	18.2
1	East Tennessee State U	29	12.4	9	15.0	16.2
2	East Carolina U	35	12.1	10	13.9	22.5
3	U of North Carolina	75	11.7	20	12.5	22.5
4	U of Maryland	58	9.7	17	12.1	24.2
5	U of Tennessee	52	8.8	12	8.7	16.2
6	U of South Alabama	20	8.0	6	9.2	26.2
7	U of Mississippi	30	7.7	6	6.0	36.3
8	U of Arkansas	39	7.2	12	8.7	16.6
9	Medical Col of Georgia	47	6.5	9	5.0	27.0
10	U of Virginia	35	6.3	13	9.3	19.0
11	U of Florida	28	6.1	5	4.4	13.9
12	Louisiana State U-New Orleans	41	5.9	14	8.0	30.0
13	Medical Col of Virginia	33	5.0	14	8.3	19.0
14	Oklahoma State U Col of Osteo Med	13	4.8	5	6.0	6.9
15	U of Texas Med Branch at Galveston	36	4.7	4	2.0	11.8
16	U of Oklahoma	25	4.6	7	4.7	6.9
17	U of South Florida	15	4.0	7	7.3	13.9
18	Medical U of South Carolina	21	3.8	6	4.7	30.5
19	U of Texas Southwestern Med Sch	30	3.8	7	3.4	11.8
20	Louisiana State U-Shreveport	14	3.7	2	2.0	30.0
20	U of Louisville	18	3.7	8	6.3	7.1
22	U of Alabama	24	3.6	8	4.8	26.2
23	U of South Carolina	9	3.5	2	2.8	30.5
24	Texas A&M U	6	3.1	1	2.1	11.8
25	U of Texas-Houston	22	2.9	6	3.2	11.8
26	U of Texas-San Antonio	19	2.3	3	1.5	11.8
27	U of Kentucky	7	2.0	0	0.0	7.1
28	West Virginia Sch of Osteopathic Med	4	1.7	1	1.5	3.3
29	Texas Col of Osteopathic Med	4	1.1	2	1.9	11.8
30	West Virginia U	3	0.9	2	2.4	3.3
31	Texas Tech U	2	0.5	1	1.0	11.8
32	Marshall U	0	0.0	0	0.0	3.3

Percent Black Population in SREB Region

SOURCES: SREB Survey of Medical School Enrollments, 1990-91; U.S. Department of Commerce, Bureau of the Census

TABLE A-4

Ranking of Independent Medical Schools in SREB States by Percentage of Black Students (all levels) and Newly Enrolled First-Year Black Students, 1990-91

	INDEPENDENT MEDICAL SCHOOL (N = 13)	TOTAL BLACK ENROLLMENT		NEW FIRST-YEAR BLACK ENROLLMENT		PERCENT BLACK POPULATION IN STATE (1985)	
		NUMBER	PERCENT	NUMBER	PERCENT		
	All Independent Medical Schools in SREB States	606	11.3	158	11.7	18.2	Percent Black Population in SREB Region
1	Morehouse School of Med	120	81.6	29	87.9	27.0	
2	Meharry Medical Col	225	77.3	56	70.0	16.2	
	Sub-Total	345	78.8	85	75.2		
3	Johns Hopkins U	46	9.8	9	7.8	24.2	
4	Duke U	36	7.8	9	8.7	22.5	
5	Mercer U	12	7.3	1	2.4	27.0	
6	U of Miami	39	7.1	8	6.3	13.9	
7	Emory U	28	6.3	8	7.1	27.0	
8	Bowman Gray Sch of Med	27	6.2	11	10.2	22.5	
9	Southeastern Col of Osteopathic Med	23	5.4	8	7.0	13.9	
10	Eastern Virginia Med Sch	14	3.8	5	5.2	19.0	
11	Baylor Col of Medicine	15	2.3	8	4.7	11.8	
12	Tulane U	13	2.2	2	1.4	30.0	
13	Vanderbilt U	8	2.1	4	4.2	16.2	
	Sub-Total	261	5.3	73	5.9		

SOURCE: SREB Survey of Medical School Enrollments, 1990-91; U.S. Department of Commerce, Bureau of the Census

TABLE A-5

Ranking of Public Medical Schools in SREB States by Percentage of Hispanic Students (all levels) and Newly Enrolled First-Year Hispanic Students, 1990-91

	PUBLIC MEDICAL SCHOOL (N = 32)	TOTAL HISPANIC ENROLLMENT NUMBER	TOTAL HISPANIC ENROLLMENT PERCENT	NEW FIRST-YEAR HISPANIC ENROLLMENT NUMBER	NEW FIRST-YEAR HISPANIC ENROLLMENT PERCENT	PERCENT HISPANIC POPULATION IN STATE (1985)	
	All Public Medical Schools in SREB States	589	3.8	150	3.8	6.6	Percent Hispanic Population in SREB Region
1	U of Texas-San Antonio	108	13.2	33	16.3	22.8	
2	Texas A&M U	20	10.4	5	10.4	22.8	
3	U of South Florida	38	10.1	8	8.3	9.8	
4	U of Texas-Houston	68	8.9	18	9.5	22.8	
5	U of Texas Med Branch at Galveston	67	8.7	16	8.0	22.8	
6	U of Texas Southwestern Med Sch	68	8.6	11	5.4	22.8	
7	Texas Col of Osteopathic Med	29	7.8	6	5.8	22.8	
8	Texas Tech U	29	7.5	10	10.0	22.8	
9	U of Florida	27	5.9	5	4.4	9.8	
10	Louisiana State U-New Orleans	31	4.5	8	4.5	2.2	
	Sub-Total	485	8.6	120	8.4		
	22 Other Public Medical Schools	104	1.1	30	1.2	<2.3	

NOTE: Hispanics may include individuals of all nationalities and races.

SOURCE: SREB Survey of Medical School Enrollments, 1990-91; U.S. Department of Commerce, Bureau of the Census

TABLE A-6

Ranking of Independent Medical Schools in SREB States by Percentage of Hispanic Students (all levels) and Newly Enrolled First-Year Hispanic Students, 1990-91

	INDEPENDENT MEDICAL SCHOOL (N = 13)	TOTAL HISPANIC ENROLLMENT NUMBER	TOTAL HISPANIC ENROLLMENT PERCENT	NEW FIRST-YEAR HISPANIC ENROLLMENT NUMBER	NEW FIRST-YEAR HISPANIC ENROLLMENT PERCENT	PERCENT HISPANIC POPULATION IN STATE (1985)	
	All Independent Medical Schools in SREB States	262	4.9	69	5.1	6.6	Percent Hispanic Population in SREB Region
1	U of Miami	87	15.7	25	19.5	9.8	
2	Southeastern Col of Osteopathic Med	48	11.3	14	12.2	9.8	
3	Baylor Col of Medicine	45	6.9	10	5.8	22.8	
4	Tulane U	30	5.1	8	5.4	2.2	
5	Morehouse School of Med	6	4.1	1	3.0	0.8	
	Sub-Total	216	9.1	58	9.7		
	8 others	46	1.5	11	1.5	<1.7	

NOTE: Hispanics may include individuals of all nationalities and races.

SOURCE: SREB Survey of Medical School Enrollments, 1990-91; U.S. Department of Commerce, Bureau of the Census

TABLE A-7

Ranking of Public Medical Schools in SREB States by Percentage of Native American Students (all levels) and Newly Enrolled First-Year Native American Students, 1990-91

	PUBLIC MEDICAL SCHOOL (N = 32)	TOTAL NATIVE AMERICAN ENROLLMENT NUMBER	TOTAL NATIVE AMERICAN ENROLLMENT PERCENT	NEW FIRST-YEAR NATIVE AMERICAN ENROLLMENT NUMBER	NEW FIRST-YEAR NATIVE AMERICAN ENROLLMENT PERCENT	PERCENT NATIVE AMERICAN POPULATION IN STATE (1985)	
	Public Medical Schools in SREB States	92	0.6	31	0.8	0.5	Percent native Americ Population in SREB Region
1	Oklahoma State U Col of Osteo Med	16	5.9	6	9.0	5.7	
2	U of Oklahoma	27	5.0	8	5.3	5.7	
3	East Carolina U	7	2.4	3	4.2	1.1	
4	Texas Tech U	4	1.0	1	1.0	0.4	
4	U of Texas Med Branch	8	1.0	3	1.5	0.4	
6	U of North Carolina	5	0.8	0	0.0	1.1	
6	U of South Alabama	2	0.8	0	0.0	0.2	
8	U of Alabama	5	0.7	0	0.0	0.2	
	Sub-Total	74	1.9	23	2.3		
	24 Other Public Medical Schools	18	0.2	8	0.3	<0.7	

SOURCE: SREB Survey of Medical School Enrollments, 1990-91; U.S. Department of Commerce, Bureau of the Census

TABLE A-8

Ranking of Independent Medical Schools in SREB States by Percentage of Native American Students (all levels) and Newly Enrolled First-Year Native American Students, 1990-91

INDEPENDENT MEDICAL SCHOOL (N = 13)	TOTAL NATIVE AMERICAN ENROLLMENT NUMBER	TOTAL NATIVE AMERICAN ENROLLMENT PERCENT	NEW FIRST-YEAR NATIVE AMERICAN ENROLLMENT NUMBER	NEW FIRST-YEAR NATIVE AMERICAN ENROLLMENT PERCENT	PERCENT NATIVE AMERICAN POPULATION IN SREB REGION (1985)
All Independent Medical Schools in SREB States	5	0.1	1	0.1	0.5

SOURCE: SREB Survey of Medical School Enrollments, 1990-91; U.S. Department of Commerce, Bureau of the Census

APPENDIX B

Note on Methods

Data on minority medical school enrollments are collected and reported by the Association of American Medical Colleges (AAMC) and the American Association of Colleges of Osteopathic Medicine (AACOM). The AAMC reports enrollment data on minority students by school only for four groups it identifies as "underrepresented"--black Americans, native Americans, Mexican-Americans, and mainland Puerto Ricans. The AACOM collects data on all minority students but reports only aggregate minority data by school (including Asian Americans and Pacific Islanders).

For this study, SREB requested data on total and first-year minority students directly from all medical schools in the region. Additional data on out-of-state students, applicants, graduation rates, and faculty were requested from selected schools representing the upper and lower extremes in the region in percentages of minority students enrolled. Decisions about which schools to include in this more detailed portion of the study were based on the limited data available from the AAMC and AACOM.

Because of their extensive experience in dealing with minority students, both Meharry Medical College and Morehouse School of Medicine were automatically included in the more detailed portion of the study.

Using AAMC data on underrepresented minorities, averages were obtained for combined enrollments of black, Mexican-American, mainland Puerto Rican, and native American students for the academic years 1987-88 to 1989-90 for the 39 predominantly white M.D. schools in the region.[1] The 10 schools with the highest average of these students for that three-year period and the 10 with the lowest were selected for detailed study. The top 10 schools had average enrollments of AAMC underrepresented minorities ranging from 9.3 to 14.9 percent from 1987 to 1989, while the bottom 10 schools averaged from 0.9 to 5.1 percent.

For the four D.O. schools in the region, AACOM data for 1988-89 indicated that two schools--Southeastern College of Osteopathic Medicine and Oklahoma State University College of Osteopathic Medicine--each had combined enrollments of black, native American, and all Hispanic students exceeding 11 percent. These two schools were included in the more detailed study. The remaining two osteopathic schools had percentages of students that did not indicate inclusion at either extreme.[2]

In identifying the medical schools with the highest and lowest percentages of minority students, differences in minority populations between states were considered. Among the 10 schools identified as having few minority students, for example, were schools in West Virginia and Kentucky, the SREB States with the smallest minority populations, while other low-minority schools were in states with minority populations among the region's largest, Alabama and South Carolina. When aggregate percentages of minority medical students were compared to percentages of minorities in the population, it was found that all of the schools in the low group were still performing less well than those in the high group. Differences in minority population should be taken into account, however, when comparing the relative performance of schools in each group. It also should be noted that enrollments of minorities at some schools changed considerably between the 1987-90 period and 1990-91; the University of Louisville is a good example.

In addition to data on applicants, graduations, and faculty, each of the 24 schools identified for detailed study was asked to provide a narrative description of its recruitment activities, admission procedures, and retention programs. During the fall of 1990, SREB staff made site visits to 14 schools with high enrollments of minority students to gain a better understanding of formal programs aimed at minority students and more

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[1] *Medical School Admission Requirements, United States and Canada*. Editions for 1989-90, 1990-91, 1991-92, Association of American Medical Colleges, Washington, D.C.

[2] *Annual Statistical Report, 1989*. American Association of Colleges of Osteopathic Medicine, Rockville, MD, 1990.

subjective factors contributing to success in this area. Profiles of each of these schools are included in this report.

The 21 remaining schools were told that any information they might wish to provide on this subject beyond the requested enrollment data would be welcome. Only one, the University of Tennessee, Memphis, took advantage of this opportunity.

Distinctions Between Minority Groups

Although combined data for several minority groups were used to select schools to be studied in detail, it was determined that aggregation of minority groups was not meaningful in comparing the performance of either individual schools or states, since minorities are not equally distributed throughout the region. Each of the 15 SREB states has a measurable black population (albeit varying widely, from 3 percent in West Virginia to 36 percent in Mississippi). In contrast, only two states, Florida and Texas, have Hispanic populations greater than 3 percent. Nine states have Hispanic populations of less than 1 percent. Similarly, Oklahoma has more than five times the percentage of native Americans (nearly 6 percent) as its nearest counterpart, North Carolina, the only other state in the region with more than 1 percent.

The presence of significant Hispanic and native American populations in only a few states means that comparisons of aggregate minority enrollments are of questionable value, since different minority groups have differing characteristics as potential medical students. Therefore, no attempt was made to rank schools in terms of overall enrollment of minority students during 1990-91.

The diverse nature of the Hispanic population in the SREB region also led to a decision that no distinction would be made between different categories of American citizens of Hispanic origin. While differences undoubtedly exist between different groups of Hispanics, it was not the purpose of this study to attempt to identify and analyze these differences. One immediate result of this decision was to alter the configuration of the two groups of M.D. schools being studied in detail. An analysis of the enrollment data provided by each school for 1989-90 and 1990-91 indicated that the limited definition of underrepresented Hispanics used by the AAMC understates Hispanic enrollments for several M.D. schools.

It became clear, that, if "other" Hispanics were included, both the University of Miami and the University of South Florida would be among the leaders in the region in Hispanic enrollment. Therefore, South Florida, which previously had been surveyed as one of the schools with the lowest enrollment of minority students was shifted to the high-minority group. Miami was also added to this group, and was asked to provide the same kinds of detailed information that had been requested of other schools. Although it was not possible to make site visits, South Florida and Miami are included in the detailed analysis of admissions information and are profiled in this report. In addition, Baylor College of Medicine, originally included among the bottom 10 schools on the basis of AAMC data, was removed from that group after data on other Hispanics were evaluated.